JULY, 1953

Industrial FINISHING

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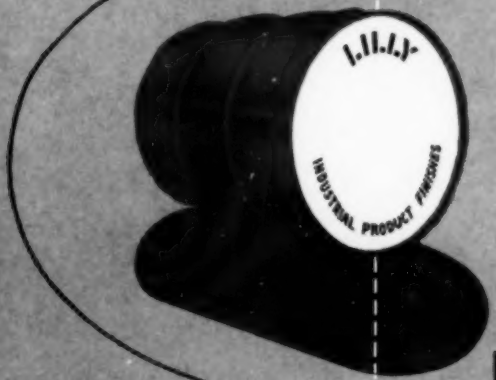
LILLY VARNISH COMPANY OF MASS.
Gardner, Massachusetts

LILLY VARNISH COMPANY
Indianapolis, Indiana



Lilly VARNISH COMPANY
INDIANAPOLIS, INDIANA
Affiliated plants at Gardner, Mass. and High Point, N. Carolina

THE LILLY COMPANY
High Point, N. Carolina

Three Lilly plants, strategically located, are serving American Industry with all types of product finishes and coatings: VARNISHES . . . LACQUERS . . . ENAMELS . . . METAL LITHO COATINGS . . . STAINS and WOOD FILLERS. Ask about our complete technical and finishing service which is available to help manufacturers with their individual finishing problems and requirements.

Dam this Corrosion!

The only POSITIVE way to stop the demon rust is to create an efficient water and oxygen barrier between the surface to be protected and its environment.

You can do this easily and effectively

WITH 9743 IC METAL PRIMER

Designed especially for the refrigeration and air conditioning industries, 9743 IC Metal Primer provides:

1. A hard, dense film highly impermeable to the passage of water and oxygen.
2. Resistance to alkalis, chemicals and saline atmospheres.
3. Superior adhesion to resist underfilm creepage.
4. Excellent flexibility to prevent mechanical damage.
5. Completely adaptable for spray, dip or flow coat application.

Write for details on this

REALLY IMPORTANT ADVANCE IN METAL PROTECTION.

Interchemical Corporation

Finishes Division

FACTORIES: CHICAGO, ILL • CINCINNATI, OHIO • ELIZABETH, N. J.
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Capitol Presents the . . .

"FLAT BED" AUTOMATIC ELECTRIC SPRAY BAKE CONVEYOR COATING MACHINE

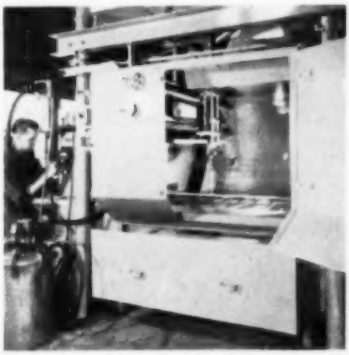
- **HAS BUILT-IN DRYING CHAMBER AND ELECTRIC STRIP-HEATED OVEN.**
- Equipment includes conveyor, dry or water-wash spray booth, drying compartments, electric strip-heated oven, controls, etc.
- A continuous conveyor operation with spray gun travel from 18-in. to any desired width.
- Automatically sprays a wide variety of flat work from small buttons to large panels, which travel through a drying chamber for solvent evaporation and then into electric strip-heated bake oven.
- **PAYS FOR ITSELF IN REGULAR PRODUCTION WITHIN THREE TO SIX MONTHS.**
- Produces a high-quality finish and exceptional savings on flat odd shapes that are difficult to handle.
- Has variable speed drive to meet any scheduled requirement.
- Exceptionally easy to clean and maintain.

Let us make a test run of your own work samples—for time study and cost analysis—no obligation.

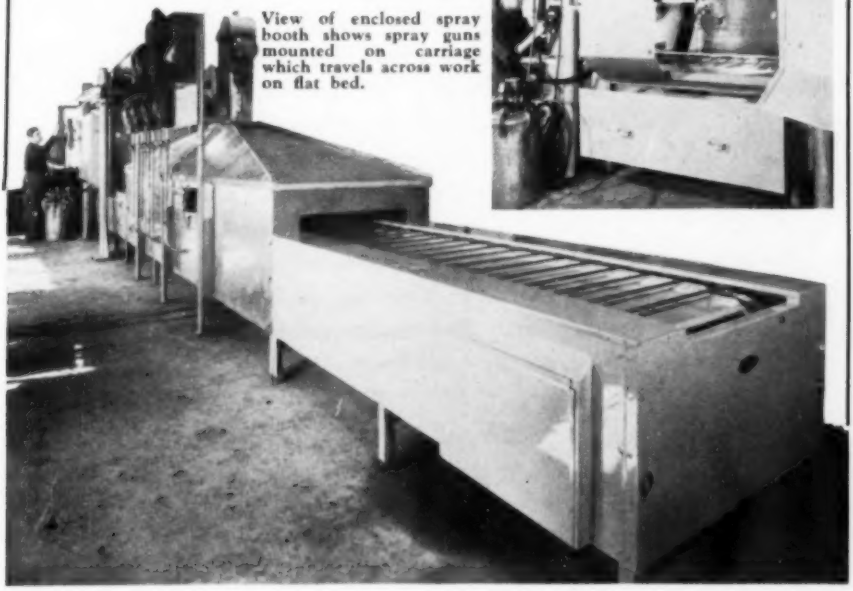
THE CAPITOL MACHINE CO.

36 Balmforth Avenue

DANBURY, CONN. **Tele. Danbury 3-2758**



View of enclosed spray booth shows spray guns mounted on carriage which travels across work on flat bed.



The right finish is important to Columbia Mfg. Co. Inc.

The 1303 Cocktail Table by Columbia is beautiful . . . in design . . . in detail . . . and in its lustrous mahogany finish. It is a finish created in our studios by specialists who consider each new assignment to be a challenge. The character of the finish, the method of application and the protective qualities are developed to match and enhance the design of the furniture. The results speak for themselves . . . on the sales floor.

The Better the Finish, the Better the Buy

GRAND RAPIDS VARNISH CORPORATION

GRAND RAPIDS, MICHIGAN

Makers of the Famous Guardsman Finish and Guardsman Cleaning Polish

JULY, 1953
Vol. XXIX, No. 9

CCA

A monthly magazine for finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of industrial plants where product surface cleaning and finishing are major operations in the manufacture of parts and products.

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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29 TWENTY-NINTH YEAR OF PUBLICATION

Vacuum Metallizing is certainly becoming more popular as time goes on. It is still more or less an infant, only about ten years old. One reason for its popularity is that it is economical. For example, one pound of aluminum will coat over 25,000-sq.ft of surface by the vacuum metallizing process.

In this process, a protective organic coating is required. Great strides have been made in the protective materials. One thing to bear in mind is that the metallic finish is only as good as the protective coating.

* * *

Flexible File. An abrasive file is now available. It is used like a conventional metal file, but with a cutting surface that feeds from a coated abrasive roll.

Its cutting surface pulls out from coil of abrasive cloth at end of a flat steel bar.

The Red Flash file has an 11-in. stroke. The file holds a roll of more than six feet of abrasive cloth. This provides a six-foot cutting surface that is dispensed as needed to maintain a fresh cutting surface at all times.

* * *

Fire Brigades Can Save Plant. According to the Fire Protection Institute, 670 Fifth Ave., New York City, nine out of ten industrial fires can be controlled by plant fire brigades—if the men are trained and equipped with adequate, portable fire fighting equipment.

Based on a survey, in 1952, 87% of 1759 fires were put out while they were small by plant fire brigades and trained plant personnel armed with fire extinguishers and other portable fire fighting equipment.

It is not always possible to prevent a fire, but it is more often possible to put it out before it causes too much loss and damage. Think it over.

* * *

For Safe Packaging of highly polished wood surfaces such as furniture, highly polished metal products and delicate equipment, a new material is now available.

It is a laminated combination of Chippaflex, a flexible corrugated board, and the inside soft, non-abrasive cushioning of Kimpak. A

Pardon please

BUT DON'T YOU KNOW HOW MUCH YOUR

"FINISH" IS SHOWING?

May we suggest that since this is our **Thirtieth** year of service to Furniture Manufacturers—we **should** be, and we are, able to solve your "Finish" problems.

Our latest developments include such items as **totally transparent, permanently Water White Lacquers and Sealers,** TONE-FILL, STAIN-FILL, TINTONE and numerous other outstanding products to enhance beauty and provide better finishes with improved speed and economy.

"From the start consider the Finish"

V. J. DOLAN & COMPANY, INC.

Manufacturers of "Unquestionable Quality"
INDUSTRIAL FINISHES
1830 N. Laramie Avenue Chicago 39, Ill.
Berkshire 7-0100

FUNCTIONAL FINISHES ! !

If you require your coatings to accomplish some specific task—something beyond mere ornamental appearance or average longevity—

TRY US!

We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.

THE VARNISH PRODUCTS COMPANY
5206 Harvard Avenue **Cleveland, Ohio**

NON-INJURIOUS

ELECTRO

NON-INFLAMMABLE

COLD STRIPPER

FASTEST *in Action*

LOWEST *in Price*

WRITE FOR TESTING SAMPLE OR ORDER
5-GALLONS AT DRUM PRICE

Specify whether dip or brush type is desired

Allied Finishing Specialties Co.
2641 W. Grand Ave. • Chicago 12, Illinois

wide range of weights and grades are available. It comes in sheets, sleeves, built up single-face pads, corner pads and corner posts. It is called Chippaflex-Kimpak.

* * *

A New Magnet. From overseas comes news of a new magnet made of microscopically fine iron dust which is said to equal any made of the finest cobalt steel. It was developed by the General Electric Co., Ltd., of London.

These magnets can be molded into any shape. Every particle can be insulated from every other particle. The magnets are 50% lighter in weight than steel magnets of comparable size.

* * *

Mahogany Finishes. Straws in the wind indicate that for the balance of this year, mahogany will come to market all dressed up in a lot of new finishes in a wide range of brown and amber tones. These bring out the depth and play of lights and shadows for which mahogany is famous.

The light finishes, both bleached and the toner finishes will still be used. Most of the Modern will very likely be shown in some variation of honey tones running more to the browns than to the reds.

* * *

Price Reduction. The Bakelite Co. Division of Union Carbide and Carbon Corp., announces a 3¢ per pound price reduction for most polyethylene resins and compounds. This is the second reduction in price in seven months.

Polyethylene started out ten years ago in short supply at $1.00 per pound. Now it is still in short supply, but the price is only 44¢ per pound.

Improved efficiency, lower production costs and expanding volume are the answers for the reductions. Improved efficiency and lower production

DUALHEET
Paint Heaters For Industry

MODERNIZE Your Finishing Technique With DUALHEET HOT SPRAY...

And Get These Dualheet Features!

- Used singly, wall mounted or portable—or, in "Tandem" style ganged together in one outer jacket.
- Two styles: WITHOUT Recirculating Pump and Motor where constant flow of paint is used; WITH Recirculating Pump and Motor Attachment where production is intermittent.
- Exclusive DUALHEET feature places controlling thermostat direct in paint to minimize temperature variation.
- Exclusive design and construction provide the SMALLEST, yet the most POWERFUL Paint Heater approved by Underwriters Laboratories.

Model 250-R Dualheet with Recirculating System

Write for LATEST LITERATURE—Compare DUALHEET'S Many Features!

Industrial Factory representatives write for details.

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West Coast: 10817 Long Beach Boulevard, Lynwood, California

KEEP SPRAY BOOTHS SAFER FROM FIRE!

WITH NON-INFLAMMABLE

BOOTHCOTE #4

FOR DRY WALL BOOTHS
PERFECT LUBRICANT FOR FORMS

BOOTHCOTE #5

FOR WATER WASH BOOTHS
PERFECT RUST PREVENTATIVE
INSIDE STORAGE — OUTSIDE STORAGE

Makes frequent cleaning easy. Pre-mixed, ready to use, safe to store. Saves time, labor, no flaking off. Spray or brush on clean booth. When desired, operator peels off overspray in sheets. Advocated by insurance companies.

***Money-Back Trial Offer:* 5 gals. $6.25**

KLEENCOTE

WATER WASH COMPOUND
BREAKS UP PAINT—NO CLOGGED UP SYSTEMS

HYGRADE'S STERLING CREME
HYGRADE'S SKIN GUARD

protects hands, face and arms from paint, grease, ink, etc. penetrating skin. Soil washes off easily without harsh solvents or cleaners. Paint and grime washes off. Reduces blackheads and skin blemishes.

12—7 oz. Jars—$6.00

HYGRADE'S STERLING CLEANER
HYGRADE'S HANDY SOAP & CLEANER

WATERLESS HAND CLEANER

dissolves grease, grime, fresh paint, tar, printers' ink, shellac, mastic cement, etc. without water. Use for cleaning refrigerators, ranges, etc., before shipping.

12—14 oz. Jars—$7.08
All prices f.o.b. Buffalo

HYGRADE
FOOD PRODUCTS CORP.
INDUSTRIAL DIV., 18 STETSON ST.
BUFFALO 6, N. Y.

costs must come first. These will provide the price reduction that will produce the expanding market by putting the product within reach of an ever increasing market. This is something every manufacturer should think about.

* * *

Temperature Indicators. Did you know that three types of temperature indicators are available? They come in a crayon used to mark the metal surface, a pellet about the size of an aspirin tablet, and a liquid for coating the surface. All three are available (each marked with its temperature limit) in temperatures ranging from 113°F. to 2000°F.

Change of color does not signify that the specified temperature has been reached. When the marking, the pellet or the liquid coating liquefies, it indicates the product has attained the prescribed temperature.

* * *

Plastic Coating Process has been developed for applying a smooth, continuous coating on flexible steel tubing, metal and paper jacketed tubing and other hard to coat materials. The process is applied according to customer requirements with various types of thermo-plastic materials.

The plastic does not reduce the flexibility of the product or allow the coating to penetrate small openings in the item covered.

* * *

Aluminum foil is simply sheet aluminum that has been rolled thinner and thinner—to tissue paper thinness. It has many protective uses; can be color-printed like paper; can be laminated to board or paper or roofing felt; can wrap any shape, or be molded into any type of container. Besides the vast field of packaging, it has many industrial and commercial uses.

(Continued on page 124)

DESPATCH

A FINISHED TRACTOR *every 5 minutes!*

Tractor finishing at the J. I. Case plant, Rock Island, Ill., has been doubled and quality of finish raised to a new high with this modern finishing system designed, built and installed by Despatch. Housed in a new, well lighted building the system is giving Case tractors a rich, durable baked on finish in the familiar Case Flambeau Red. The operation includes washing, painting and finish baking.

1. 600-ft. continuous conveyor enters 3-stage washer where tractor gets a 160° F. phosphate wash, cold water mist bath, and 180° F. hot water rinse.
2. Tractors are spray painted in staggered water wash booths. Paint is heated to 170° F. —eliminates need for thinner and allows closer spraying to cut down overspray.
3. A lasting, weather resistant finish is baked on at 225° F. in this 96-ft. oven heated by steam from the Case central steam plant. Emerging from the oven, tires and other accessories are added.

Let Despatch Modernize Your Finishing Operations

Replace your obsolete finishing system with a modern Despatch system engineered to fit your needs. Increased production, higher quality and lower costs will result.

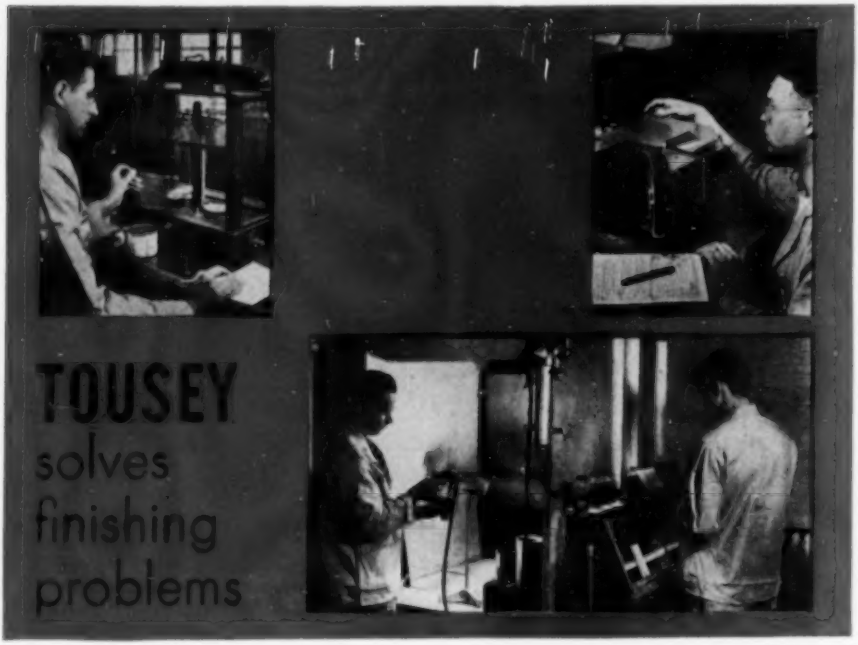
Write, wire or call Dept. E for details.

DESPATCH OVEN COMPANY

Minneapolis Office: 619 S. E. 8th Street

Chicago Office 4554 N. Broadway

Sales Offices in all Principal Cities



Tousey Varnish Co. has the proper testing equipment for solving difficult finishing problems. Three completely equipped laboratories are staffed with competent and experienced help.

The Raw Materials Laboratory thoroughly polices ingredients used in paint formulation, keeping vigilant watch on quality at all times.

The Research Laboratory is constantly seeking new ways and means for bettering Tousey products, checking and rechecking formulas, making new tests for gloss, durability, viscosity and adaptability in production.

The Production Laboratory controls each step of manufacture, setting standards that make Tousey finishes the finest available.

Let TOUSEY help you with your finishing problems — send us your specifications today.

TOUSEY VARNISH CO.
520 W. 25th St., Chicago 16, Illinois

TOUSEY PRODUCTS
DURACOTE for DURABILITY

PLANT ENGINEERS PREFER

Schmieg CENTRI MERGE INDUSTRIAL EQUIPMENT

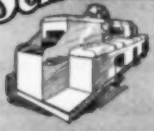
Schmieg DUST and FUME CONTROL EQUIPMENT

Completely automatic Centri-Merge units are designed and engineered to your specific requirements, to maintain the cleanest dust- and fume-free working conditions. Compact, self-contained equipment occupies a minimum of valuable floor space, saves many maintenance dollars.

Schmieg SPRAY BOOTHS

Designed, built and installed to synchronize with your production line. No fire hazard with a Centri-Merge; overspray carried away in a whirling tornado of water. Safe, clean, efficient, economical; adapted to any type of conveyor equipment, overhead or floor.

Schmieg MECHANICAL WASHERS



Centri-Merge is first step and first choice of plant engineers for high production cleaning, long trouble-free service at low operating cost. Convenient manual or automatic types for any finishing application.

Schmieg INDUSTRIAL OVENS

Safeguard your product quality with Schmieg drying and baking-ovens. Every operating essential carefully designed and engineered to give you the very best finishing job. Any size, shape or type of oven, conveyor or box, for any installation arrangement.

Consult Schmieg Engineers Today

THE best AIR PURGE is CENTRI MERGE

Schmieg INDUSTRIES INC.

Engineers & Manufacturers

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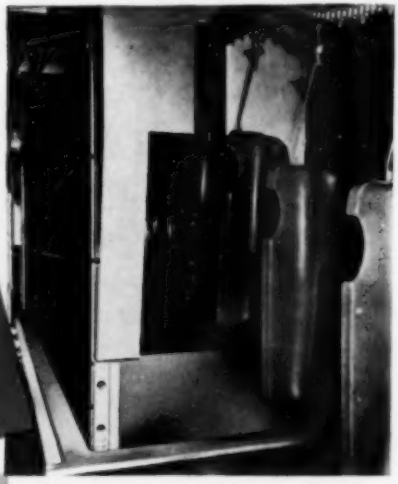
"16 Hours' Work Cut to 10 *with* JENSEN PAN·L·HEAT!"



42-ft. Pan•L•Heat oven at BMC Manufacturing Corp., Binghamton, N.Y. Total connected load is 203 KW. Operating temperature: approx. 300° F. Oven handles *ALL* colors—without special temperature adjustments.

BMC MANUFACTURING CO., LEADING MAKER OF QUALITY WHEEL TOYS, REPORTS:

"Finishing operations at BMC are now producing in 10 hours the amount of work that previously required 16 hours, *and at no increase in operating cost*—thanks to our recently installed Jensen Pan•L•Heat oven. Our wheel products are coming out with a harder, more lustrous finish. In its nine months of operation, it has never been shut down for maintenance or repair. We're convinced Pan•L•Heat is the finest infra-red Calrod oven available."

Get *ALL* the facts from your nearest Jensen sales engineer. Distributors in principal cities.

Write for 16-page Jensen Pan•L•Heat brochure.

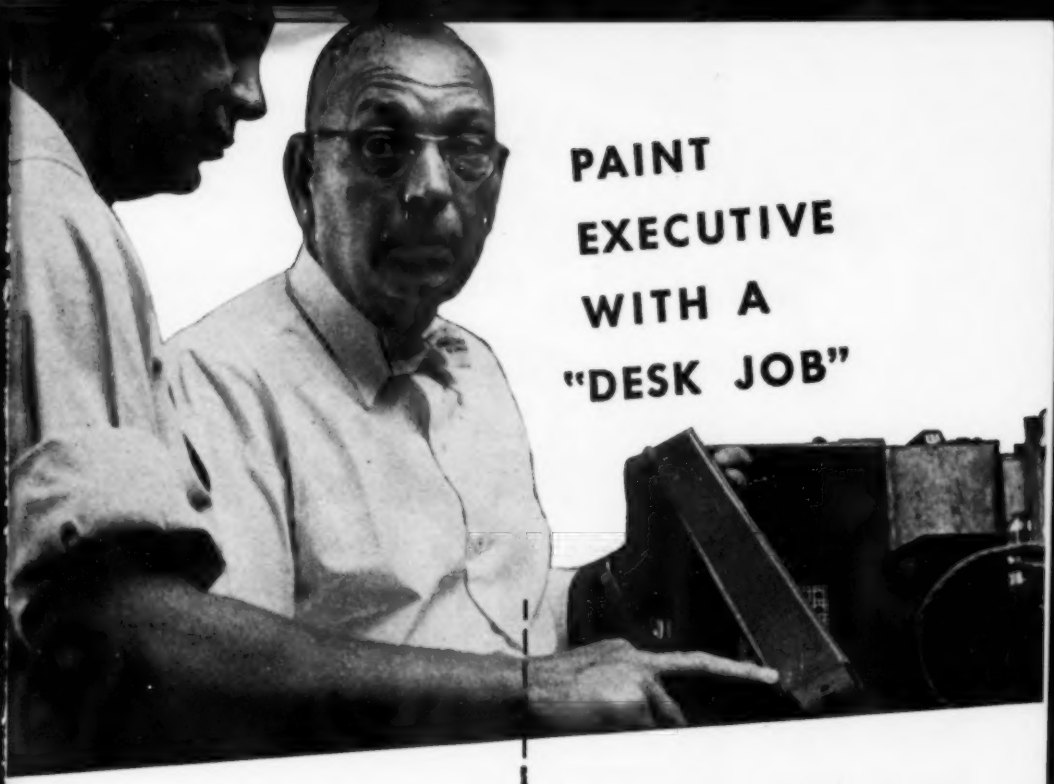
JENSEN PAN•L•HEAT:

- Increases pay load realization by improving oven efficiency.
- Uses electric heat more effectively at low cost.
- Improves quality and uniformity of production.
- Gives superior results with shorter heating cycles—at lower energy consumption.

Jensen SPECIALTIES, INC.

PAN-L-HEAT Ovens

9331 Freeland Ave.
Detroit 28, Michigan



PAINT EXECUTIVE WITH A "DESK JOB"

Sure enough that's Ferbert-Schorndorfer's Assistant General Manager, Ed Eberman at a desk job . . . . only it's not *his* desk!

The desk leg he is checking belongs to a metal furniture manufacturer who has used Ferbert-Schorndorfer finishes for 30 years . . . almost as long as Ed has been serving at F-S.

You'll seldom find Ed at his own desk pushing buttons or pencils . . . . instead he rolls up his sleeves and goes to the root of customers' paint problems.

Ed Eberman is one of many reasons why manufacturers have been doing business continuously with F-S for up to 31 years. Here no problem is too big or too small for quick, efficient, personalized attention.

If you have a finishing problem, contact F-S today.

THE FERBERT-SCHORNDORFER COMPANY

12815 Elmwood Ave. F-S **Cleveland 11, Ohio**

A DIVISION OF AMERICAN-MARIETTA COMPANY

PRODUCTION *Proved* IN OVER 7,000 PLANTS

FOSTORIA *TOPS* ALL OVENS FOR HIGH EFFICIENCY

Eliminates Heat Waste . .

Controls and Directs Heat Exactly as Needed . .

There is no guesswork — no doubt of results to be obtained with a Fostoria specified oven. Behind each Fostoria installation is the foremost engineering experience and production "know-how," proved by the high efficiency of over 7,000 Fostoria ovens now in service. You can depend on a Fostoria recommended oven to give you the finest finish bake; the greatest speed of production; save you the most in floor space; cut your drying costs to a surprisingly profitable savings.

WRITE FOR CATALOG

WRITE for this brochure of technical facts on Infra-red and case histories of many Fostoria oven installations. Tell us about your particular problem and we will include data directly applicable to your operations.

FINEST FINISH BAKE

LOWEST BAKING COST

SMOOTH "FLOW-OUT" OF PAINT

Uniformity of heat distribution and rapidity of solvent removal give smooth, even paint film.

THOROUGH UNIFORM BAKE

Near Infra-red energy penetrates paint film with constant uniform temperature.

CLEAN FINISH

No by-product of combustion — no condensation of solvent volatiles to mar finish.

SAFETY CONTROLLED

Instant heat shut-off with conveyor stoppage. No over-baking by shut-off lag.

STABLE PERFORMANCE

Unaffected by day-to-day weather conditions.

LOWEST OPERATING COST

Puts heat into the product — not into oven walls. Uses less fuel. Gold plated interior reduces heat loss to 2%. In many instances, Fostoria electric operation actually costs less than any other fuel.

REQUIRES LESS FLOOR SPACE

Shorter Cycles—most production for oven size. May be ceiling mounted.

FASTEST PRODUCTION

Fastest means of heat transfer. No warm-up required — no shut-off lag. Heat levels instantly changeable.

LOWEST MAINTENANCE COST

Clean operation — no combustion by-products. Lowest source replacement cost.

COMFORTABLE WORK CONDITIONS

No room ventilation problem.

COMPETITIVE INITIAL COST

Comparable to any quality-built oven.

Modernize for
—BETTER QUALITY
—BETTER PROFIT!

SEND FOR COMPLETE FACTS

INFRA-RED fostoria OVENS

THE FOSTORIA PRESSED STEEL CORP.
FOSTORIA, OHIO, Dept. B

Please send information on Infra-red ovens for

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Name_____

Company_____

Street_____

City_____ State_____

You're ahead 3 WAYS with KEM LUSTRAL® ENAMEL

Simplify the job . . . do away with need for many special enamels . . . get the benefit of volume production of highest industrial quality materials! If you use enamels for any purpose, or any product—wood or metal—KEM LUSTRAL's multi-usefulness may show a way to important savings.

Get the facts about this top-quality, versatile industrial enamel. It's one of a complete line of Sherwin-Williams product finishes especially developed to meet production-line requirements. Check the classified telephone directory for location of nearest Sherwin-Williams Branch—ask for brochure KL-511. Or write The Sherwin-Williams Co., General Industrial Division, Cleveland 1, O.

Services of trained industrial finish specialists available in your area through nearest Branch

SHERWIN-WILLIAMS

INDUSTRIAL FINISHES

Locks FINISH to FILLER

. . . cuts HOURS and DAYS off schedules!

Apply it over *wet* filler—this unique new sealer forms an interlocking bond between filler and top coats . . . creates a homogeneous finish literally "locked to the wood" . . . speeds up schedules by eliminating need for drying of filler before applying sealer!

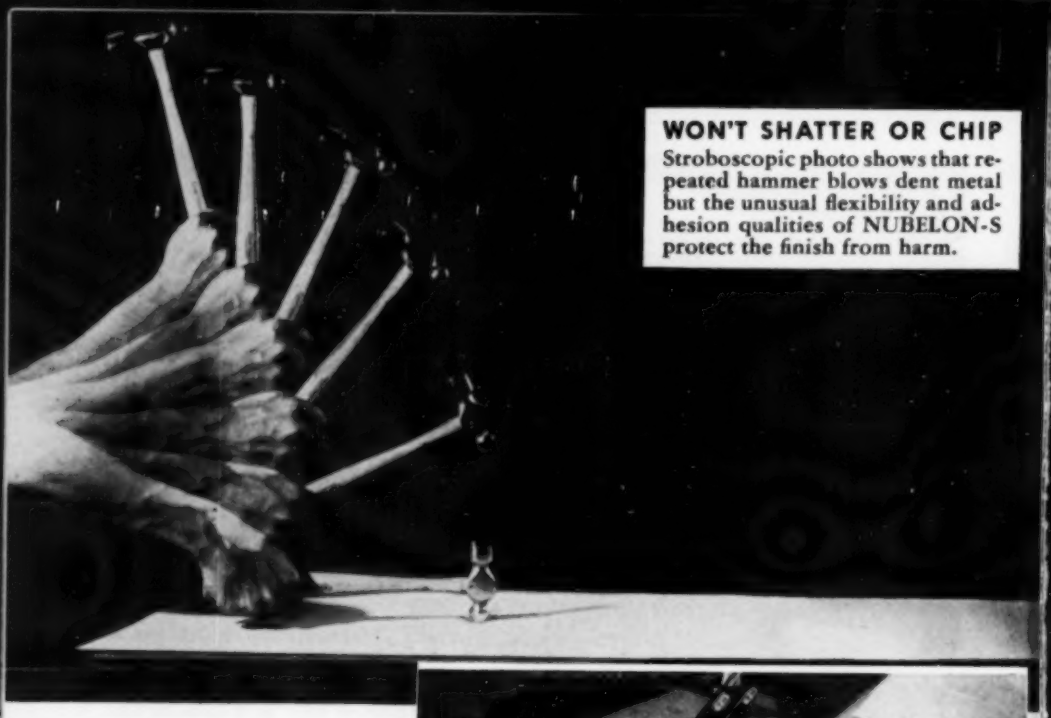
Sherwin-Williams HOMOCLAD Sealer opens the way to new and improved finishing systems using a choice of various Sherwin-Williams top coats. Its remarkable moisture-sealing properties make possible finishes with the ultimate in adhesion.

If you produce or finish furniture or wood products of any type, you'll want full information on this outstanding key to better, faster finishing. It's contained in the new Sherwin-Williams Bulletin H-104, illustrated, which describes HOMOCLAD, its applications and some of the typical faster finishing schedules it makes possible. Ask your Sherwin-Williams representative or write for a copy without obligation. The Sherwin-Williams Co., 101 Prospect Ave., Cleveland 1, Ohio.

This brochure tells how HOMOCLAD gives new and better

- **ADHESION** of finish
- **MOISTURE-SEALING** of wood
- **CONTROL** of veneer checking
- **CLARITY** and **BEAUTY**

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES



WON'T SHATTER OR CHIP
Stroboscopic photo shows that repeated hammer blows dent metal but the unusual flexibility and adhesion qualities of NUBELON-S protect the finish from harm.

HIGH HARDNESS
Pencil hardness test shows the NUBELON-S film is 50 percent harder. It withstands a 7-H pencil as compared with a 2-H for generally used appliance finishes.

EXTREME FLEXIBILITY
Wire coated with NUBELON-S is spiraled around a pencil to demonstrate the flexing it can take without cracking or flaking.

EXCELLENT STAIN RESISTANCE
All typical household stains, many of which cause permanent damage to ordinary organic finishes, wipe off NUBELON-S easily without leaving a trace.

ENTIRELY NEW BAKING ENAMEL!

NUBELON-S

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Now—for the first time—here is a finish that is much harder than any known organic film . . . yet is so flexible and adheres so well it can be bent and twisted without cracking.

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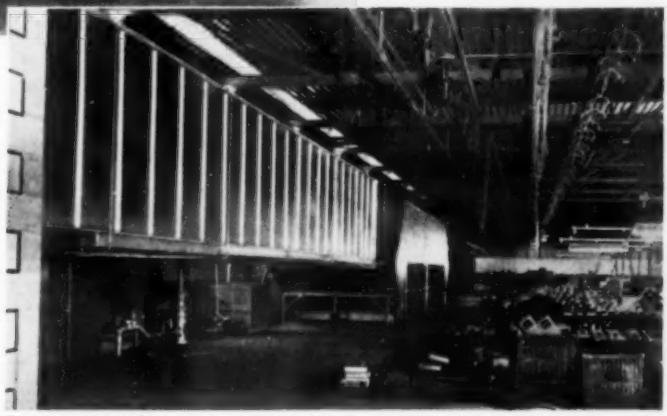

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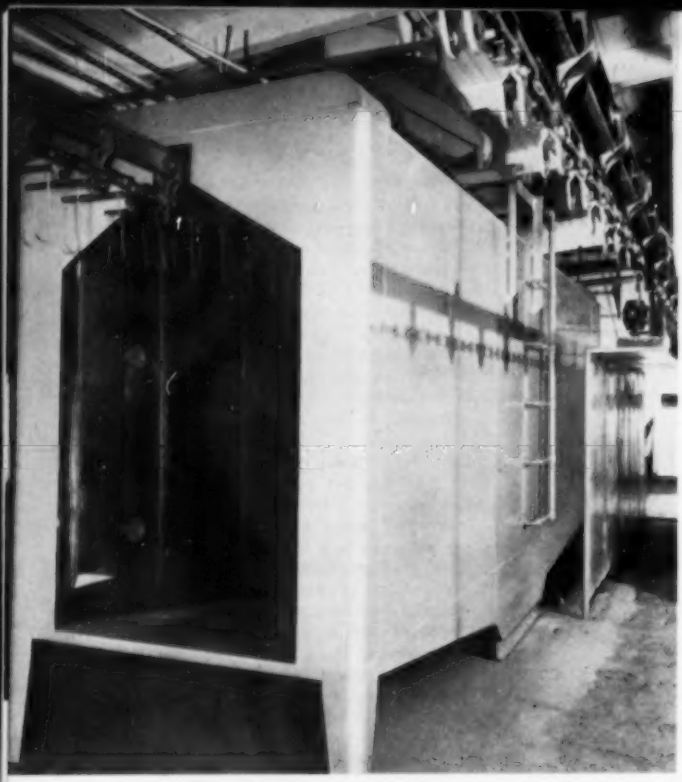


View at one end and along one side of big flow coating machine through which the parts and products to be painted by flow coating are moved through by an overhead chain conveyor.

Flow Coating

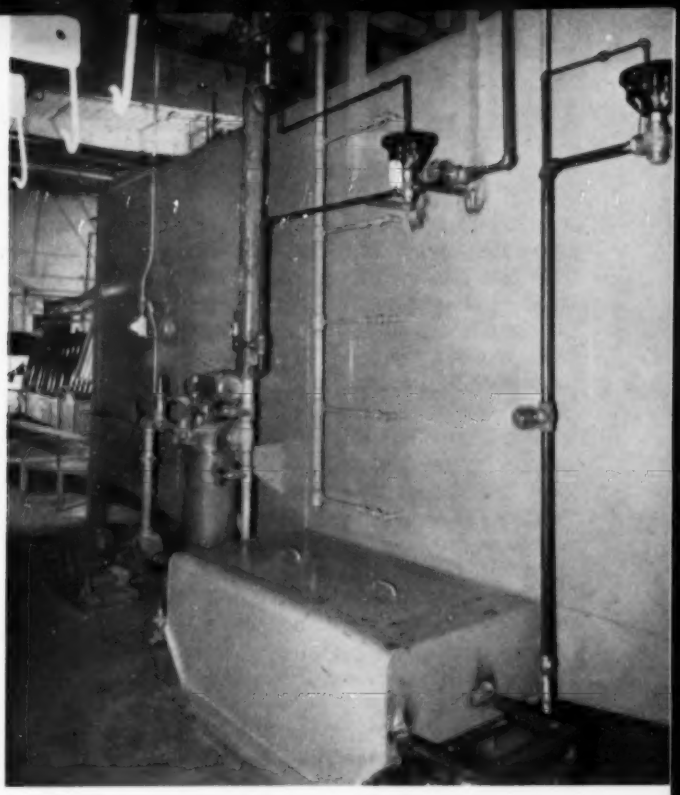
AS A MEANS OF PAINT APPLICATION

BY P. C. BARDIN

THE BASIC PRINCIPLE OF flow coating is to apply as much paint as possible to coat the product. Dip coating and flow coating are closely related in that an excessive quantity of paint is applied to the product, after which the surplus is allowed to drain off.

Any product that can be coated by dipping can also be covered with paint by flow coating, but the reverse is not always true. For example, oxygen cylinders, as heavy

[PAGE 22]



Side view of outer wall of flow coating machine, showing some piping, the pump, paint temperature control mechanism, etc. Both pictures, courtesy of The R. C. Mahon Company.

as they are, will float in paint weighing 12-lbs. to the gallon. Some other products, because of their shape or construction, will cause air pockets to be formed in a dipping operation, thus preventing complete coverage. In a case of this kind, flowing on the paint provides the answer to the coating problem.

Pouring Paint Over Product; Recirculating the Overflow

Flow coating may be likened to flowing or pouring paint (with the force of pump pressure) over products to be coated. Where the flow of paint pours over the exposed surfaces of products, a film of the material clings to those surfaces and leaves a wet coating of paint. Surplus paint flows off and it is directed through a strainer and into a supply tank from which it is again pumped through piping and nozzles to flow onto other products moving forward by conveyor. The operation is continuous.

A simple flow-coating setup would include suitable risers or manifolds and a number of nozzles arranged to flow paint over the surfaces of products from above and from both sides, and sometimes the bottom, as products to be coated move along horizontally, hanging from an overhead conveyor. All surfaces to be coated must be completely drenched with paint.

To confine the operation to within reasonable space, to protect it from flying dust or foreign particles, and

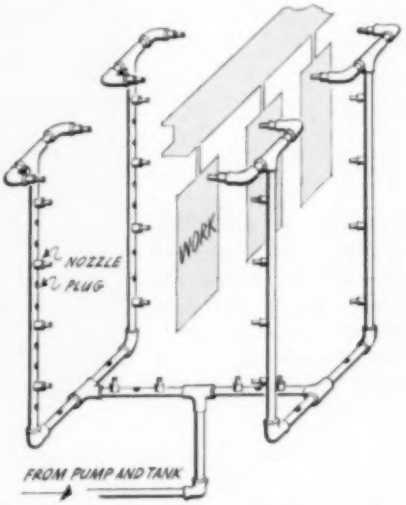
to avoid excessive wastage of paint —due to paint overshooting its mark and by rapid evaporation of solvents—most flow coating setups are placed within a sheet metal tunnel or enclosure. As a result, all that is visible are uncoated products entering a tunnel by conveyor and then leaving some distance beyond, completely covered with wet paint. The coated products should travel some distance to allow the wet paint film to air dry or flash before the conveyor line passes through an oven in which the paint film will be force dried or baked.

Flow coating has been used for many years for painting concealed parts and for priming exposed parts. It is also used as a means of coating certain products where identification or protection is of greater importance than beauty of surface appearance. Within the past few years great strides have been made toward extending the possibilities and usefulness of flow coating, adapting it to applying a top coat finish on many products.

Location of Flow Nozzles; Ventilation of Tunnel

In some flow coaters the paint nozzles extend out from two or more sets of manifolds or risers. Some have flow nozzles in the horizontal section; others do not. Some have horizontal top extension sections fitted with nozzles to flow paint down and over the product. The size of pipe used in the manifolds, its extent, and the shape, number and location of flow nozzles —all are dependent upon the size, shape and construction of the products to be coated, and the volume of production. The manifolds are connected by a pipe line to a paint supply tank and, in most cases, to a solvent tank, with one or more pumps in the line.

The tunnel type enclosure must have an adequate but well balanced exhaust system to remove solvent



Two sets of manifolds in low pressure flow coater, showing the nozzle arrangement in relation to work on conveyor. Photograph, courtesy of the General Electric Co., Major Appliance Division.

fumes without creating excessive air currents. Strong drafts and excessive exhaust will increase the solvent loss. And, in the interest of safety, every flow coater setup should have the protection of suitable fire prevention facilities and an automatic fire extinguishing system.

While the principle and method of flow coating remain the same, there are low pressure and so called high pressure systems. In the form-

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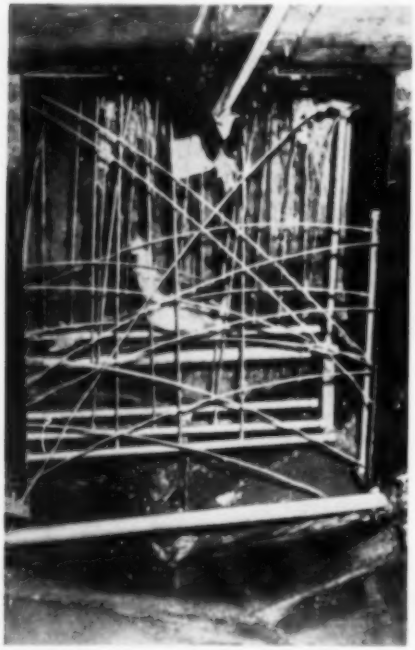
er the pressure developed is only what is needed to deliver paint to the nozzles and force it out in a steady flow. In high pressure systems, a pressure of as much as 20 to 50-lbs. may be used to force paint out of the nozzles and onto the work. The chief difference between the two lies in the type of flow nozzles used.

If the flow nozzles are shaped to produce a flat or fan shaped flow, or if the paint is to be forced out in the form of a shower, or a directed jet, it follows that pressure must be used. This pressure is supplied by a pump. The amount of pressure required will depend upon several factors, such as the size, length and number of pipes, and the number of nozzles, their size, shape and diameter of aperture, etc. The contour of the extension baffle used on some nozzles to produce a particular flow pattern and, in the case of a "shower", the size and number of holes in the shower head—these items will also be factors in determining the required pressure.



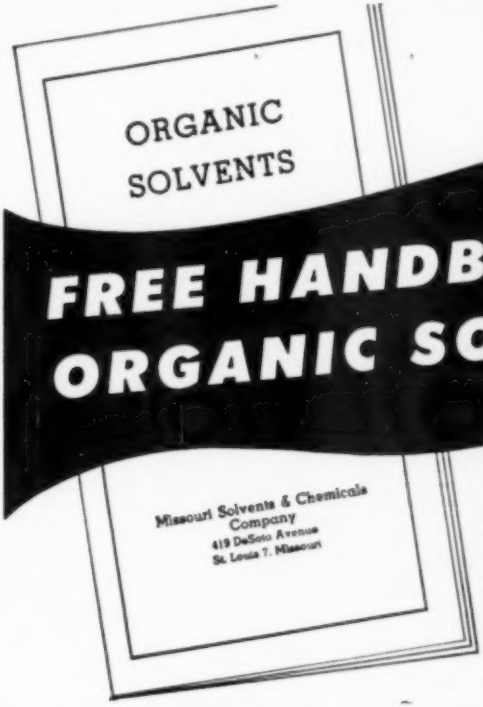
Those bent white lines are solid round streams of paint in a low pressure flow coater. The surfaces of parts that pass through cause these streams to spread and coat the work. Photograph, courtesy General Electric Company, Major Appliance Division.

Also the fact should be kept in mind that the greater the area of paint exposed to the air, as in a fan-shaped flow or a shower, the greater will be the solvent loss. Solvent will have to be added from time to time to maintain a proper balance in the coating material. Excessive pressure should be avoided, for even the slightest semblance of material atomization has no place in the flow coating method of paint application.

Fan-Shaped Flow of Paint; Rotating Arm Flow Coater

Another type of pressure flow coater has two or more rotating arms to which nozzles are attached. Fewer nozzles are needed in this machine, as the arms carrying the flow nozzles revolve to whirl the paint onto the product as it passes through the coating chamber. The power driven arms that carry flow nozzles are revolved entirely separate from the paint flowing from the nozzles.

Many different types of flow nozzles are used in pressure flow coating. One type is made by drawing a ¼-in. or ⅜-in. tube of brass,



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aluminum or copper to reduce its aperture to 1/16-in. or 3/32-in. The shape of the aperture—that is, if it is round or flat—will determine the shape of the flow of paint from this nozzle.

Nozzles made of copper tubing, while generally all right for primers or materials in which color retention is not a factor, are not recommended where white or pastel colors are to be flow coated. Experience has shown that copper is likely to discolor the white paint or enamel.

One type of nozzle has a shaped extension baffle. Paint is forced out its round orifice, but when it strikes the slightly curved extension baffle it is diffused to form a flat or fan-shaped flow. The contour and width of the extension baffle, together with the diameter of the orifice and the pressure used, will determine the size, extent and volume of the fan-shaped flow.

Modified Shower Head; Swivel Joint Nozzles and . . .

Still another type of nozzle is made by modifying an ordinary bathroom shower head. All of the original holes are sealed, or a new metal disc may be substituted. In either case, fewer but larger holes (from 1/16-in. to 3/32-in.) are substituted, depending upon the product, its shape and the area to be coated. The number and location of the holes will determine the volume as well as the design of the shower flow.

Several other different types of nozzles are in use; some are set in swivel joints so they can be turned in any direction. Others are made of soft metal tubing (aluminum or copper) which is bent or curved to an angle, and the end is shaped or pinched to produce the desired flow pattern.

For either high or low pressure flow coating, the pipes to be fitted with nozzles should be bored and tapped for twice as many nozzles as will be used. This will permit some experimenting to determine the best locations for spotting flow coating nozzles—not only when the system is first set up but when readjustments may be necessary or desirable to take care of different products, or changes in the design, shape or size of the same product. The holes not used for nozzles can be closed with threaded plugs.

Flow Coating With A Minimum of Pressure

In the low pressure flow coating systems, construction of the flow coater is identical with those using high pressures, except for the flow nozzles and pump capacity. Nozzles for low pressure flow coating are usually made of ¼-in. or ⅜-in. aluminum or copper tubing about 3-in. long. The orifice of these tubes is not bent nor drawn to a smaller diameter. Paint flows from the nozzle in a round jet or stream. Only sufficient pressure is used to raise the paint to the proper height and flow it out of nozzles pointed directly toward the products passing through the coating chamber. The surface of the product acts as a deflector to diffuse the solid round streams of paint so that they completely coat the work.

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air, plus the volume of exhaust. Since the area of a round stream is so much less than that of a fan-shaped flow or a "shower", it is safe to assume that with the same exhaust capacity, the solvent loss will be less in a low pressure flow coating system than in a high pressure system.

Solvent Saturation Area; Control of Film Thickness

In both high and low pressure flow coaters the coating chamber should be so constructed that a solvent saturation area immediately follows the nozzle station to aid and promote fast draining of excess paint from the surface of the coated product. In this area solvent vapors are not exhausted, and practically complete drainage should occur within this section of the enclosure. About 97% of the flow-off paint is salvaged in this area, and flows back, by gravity, into the supply tank.

It is posible to exert some control over a flow coated film thickness. First, it is necessary to establish the most satisfactory working viscosity of the material. The grade and speed of the solvent should be carefully selected. Finally the concentration of vapor in, and the extent of, the solvent saturation area must be found by experimentation.

Recent tests in a pilot flow coater equipped with a solvent saturation area, have shown that on 30-in. test panels, the film thickness at the bottom of these panels was actually less than at the top. This condition can be attributed directly to the action of solvent vapors in the solvent saturation area. Ordinarily, in either flow coating or dip finishing, the film thickness at the bottom of the panels would be greater than at the top.

Prevent Air Circulation In Flow Coater

A variety of methods are used to prevent or reduce to a minimum any air circulation inside the coating chamber, thereby reducing solvent loss. Some flow coaters have air locks at both entrance and exit ends of the enclosure to prevent air from entering or escaping through these openings. Solvent vapors may be exhausted in the nozzle station by a balanced exhaust designed to remove only the vapors; it should not be of sufficient capacity to create air currents in this section of the coating chamber.

Other flow coaters have silhouette baffles cut to approximately the shape of the suspended product, so it will pass through without scraping. These shaped baffles tend to reduce the passage of air through the machine. However, it is better to *prevent* air circulation rather than to reduce it. Naturally, the more accessories, such as baffles, that are installed inside the coating chamber, the greater will be the task of keeping the working parts of the machine clean.

Economy in Small Paint Supply Tanks

As a general rule the capacity of the paint supply tank for the average flow coater ranges from 250 to 300 gallons. In small setups, of course, it is much less. It is advisable to have a closed storage tank into which the material can

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*U. S. PATENTS 2,309,377 AND 2,293,751 CANADIAN PATENT 472,685

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be pumped at the end of each work day. After each shift, paint should be returned to the overnight storage tank and the entire system flushed by operating the machine with only solvent for about three minutes. The flushing solvent can be subsequently used to mix with the material as needed.

Miscellaneous parts leaving flow coater. Note variety of sizes and shapes; all are fully coated in one trip through machine. Photograph courtesy General Electric Co., Major Appliance Division.

While no attempt is being made here to compare flow coating with other methods of paint application, it seems obvious that when, due to the size and shape of the product and the volume of production, dip tanks having a capacity of from 1500 to 10,000 gallons are required, there should be a saving in using the flow coater as a means of paint application. Even though both types of equipment were equal in cost, it must be remembered that from five to ten times the quantity of paint must be used in a dipping tank.

Uniform Viscosity & Solvent Speed are Important Factors

Uniform viscosity of the coating material is highly important to the success of flow coating. Experiments with high viscosity synthetic enamels have proved satisfactory—some as high as 129 to 138 seconds at 78° F., as measured in a No. 2 Zahn cup, or 110 to 115 seconds in a No. 4 Ford cup, have been used successfully.

For the best results viscosity tests of the coating material should be made every 30 minutes throughout the work day. Solvents must be added when needed to maintain the established viscosity level.

The supplier of material will not necessarily have to make any drastic changes in the formulation of paint to be used in a flow coater. However, the grade and speed of the solvent may have to be changed to produce the most satisfactory and economical results.

Positioning of Work in Process is Important

It is just as important to hang products from the conveyor so they will remain in correct position for flow coating as it is for dip finishing. Too much emphasis cannot be placed on the correct positioning of products, both for complete coverage of the surface to be coated and for fast unobstructed draining of surplus paint. Sturdy racks should be built to hold the product rigidly in the desired position

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throughout the coating, draining and baking process.

Based on the type and weight of the product, experimental racks or hangers may be constructed out of easy to work light gauge metal, or even wood, for trial runs through the flow coater. Then, after correct positioning has been accomplished, these temporary racks may be used as patterns to build permanent, sturdy metal racks. One piece, or several pieces properly racked, may be hung from a hanger; or one or more wire mesh baskets of small parts may be suspended from a single hanger under the overhead conveyor line.

Flow coating has come a long way since it was first used to "splash a cover coat" on machinery parts and various concealed components. Not every product lends itself to flow coat finishing, but as more knowledge is acquired, and as the way to control film thickness is learned, the more this mechanical means of paint application will be used.

Editor's Note: Acknowledgment is made to the following companies for their cooperation in supplying certain technical data used in this article: General Electric Co. (Major Appliances Division), George Koch Sons, Inc., The R. C. Mahon Co.

Interchemical Holds Forums On Air-Conditioner Finishes

Engineering and other key personnel in the air conditioner industry were recently invited to attend technical meetings sponsored by the Finishes Division of Interchemical Corporation.

Four meetings were held in New York, two in Cincinnati and one in Chicago, for the purpose of presenting to the air conditioner industry the results of a four-year development program on new, greatly improved corrosion resistant finishing systems for refrigeration and air-conditioning equipment.

Paul Blackmore (standing) of Interchemical shows how corrosion starts and progresses.

The meetings were planned and conducted by K. J. Carson and Howard Ellerhorst, sales executives in the Atlantic and Central Districts respectively. Principal speaker was Paul O. Blackmore, sales promotion manager, who presented an illustrated lecture and performed chemical demonstrations showing the mechanism of corrosion, followed by a story on how Interchemical used these principles in its long-range development program.

Test methods were discussed and test results were shown on several outstanding finishing systems. Luncheon was served, followed by a question and answer period, and tours of the Interchemical plants and laboratories.

Pittsburgh Coke & Chemical Co. Expands Distribution

The Protective Coatings Division of Pittsburgh Coke & Chemical Co., Pittsburgh 19, Pa., announces the appointment of seven companies throughout the country as distributors for its Pitt Chem series 100 coal tar coatings.

These heavy duty maintenance coatings are used for protection against corrosion, moisture, weather and detrimental vapors or liquids.

The seven firms recently appointed are: W. A. Case and Son Manufacturing Co., Buffalo; Detroit Paint and Glass Co., Detroit; Minnesota Cem-Steel Co., Minneapolis; H. D. Fowler Co., Inc., Seattle; Anti-Corrosion Mfg. Co., Atlanta; S. D. Day Co., Houston and Bodwell-Lemmon Supply Co., Cleveland.

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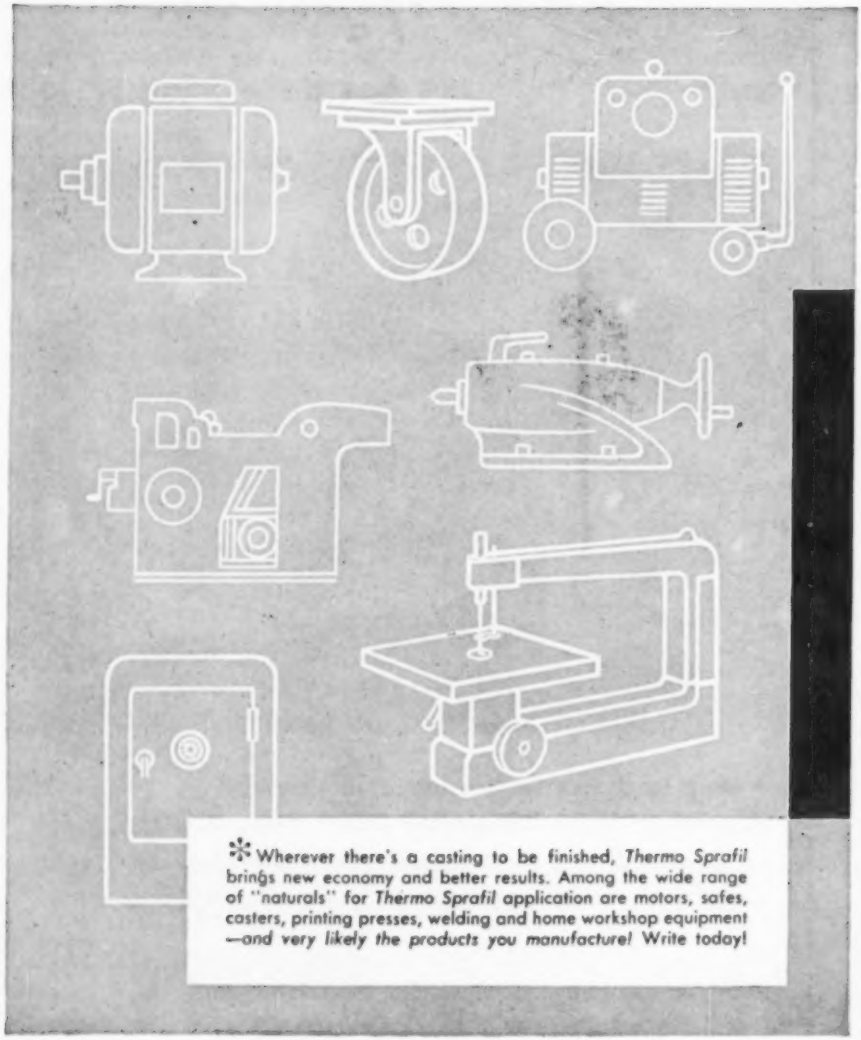

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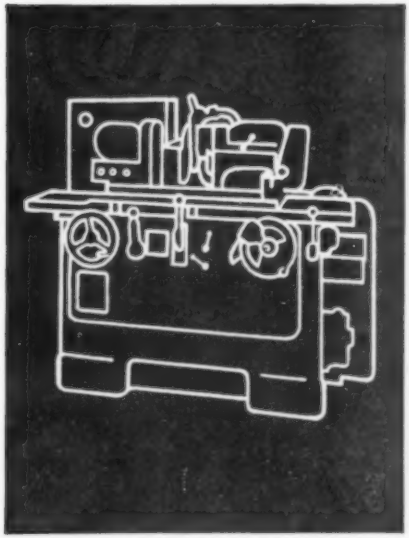


How did *Thermo Sprafil* save so much production time in this plant? Here are the four reasons, plain and simple:

1. *Thermo Sprafil* reduced sanding—entirely eliminated need for sanding on smaller castings—sanded very easily where necessary at all.

2. *Thermo Sprafil* permitted straight-line, *non-stop* production and finishing—no costly delays for tedious filling operations. Higher solids content of *Thermo Sprafil* resulted in greater "build" for successful one-pass spray application.

3. Much less handling of castings—they stayed on the line and moved! *Thermo Sprafil* dried quickly—ready for the next operation in a few hours.

4. Less time consumed in actual application of the finish. *Thermo Sprafil* flowed on smoothly—no "pin-holing."

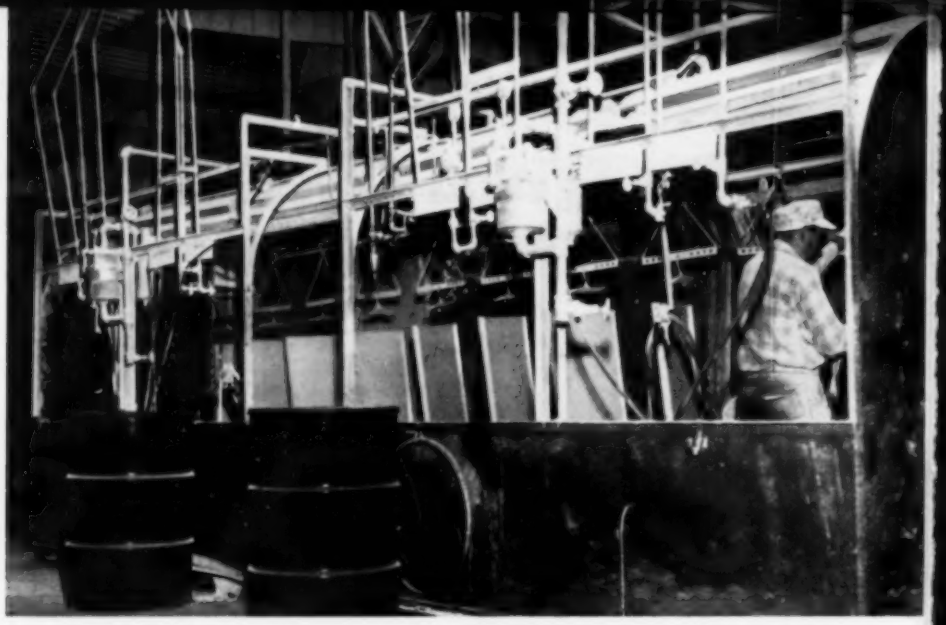
All down the line, *Thermo Sprafil* saved time for this manufacturer—and time is *money* on any production job. Take time now to check into *Thermo Sprafil* for *your* operation, and join the many other manufacturers who are enjoying faster production and better finishing results *at lower cost*. Get the full story from a Lowe Brothers "Finishing Specialist." Write today.

THE LOWE BROTHERS COMPANY • Dayton 2, Ohio
Industrial Division

This advertisement is based on facts taken from Lowe Brothers Industrial Case History Files.

LEADERSHIP THROUGH CONSISTENT SERVICE

Lowe Brothers
FINISHES FOR INDUSTRY



Seven water-wash spray booths are spotted through finishing area, similar to this one where kitchen panels are in process.

Painting the new Republic Steel *Kitchen Cabinets*

RECENTLY the Republic Steel Corp., of Cleveland, Ohio, announced an unusual undertaking in the major steel producing field—the manufacture and marketing (down to the final sales level) of steel kitchens under its own name, Republic Steel Kitchens. Modern fabricating and finishing facilities in Republic's Berger Mfg. Division, Plant No. 2, Canton, Ohio, were made available to this end.

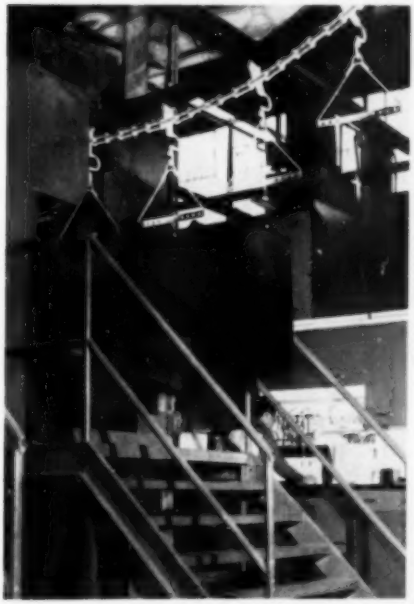
BY WALTER RUDOLPH

Already one of the finest facilities of its kind in the country, Berger's Plant No. 2 has been retooled to the extent of over $1,000,000. Backing up the production of Republic Kitchens will be years of metal working and finishing experience gained in Berger's manufacture of

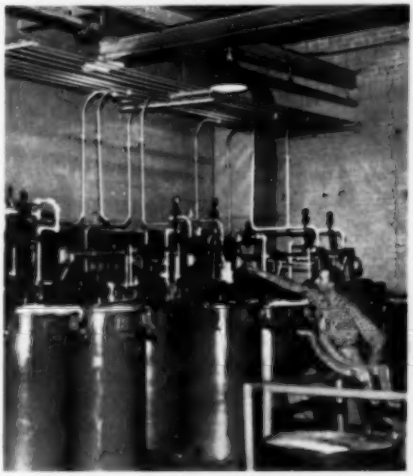
steel office furniture, steel cabinets of all kinds, air-conditioning units, metal shelving, work tables and other items.

Precision Fabrication Reduces Metal Preparation Work

Berger brings to the cleaning and painting of steel kitchens, modern equipment and extensive production layout. Precision fabricating and welded assembly of kitchen units forestalls, for the most part, any need for laborious metal finishing as such, so grinding and sanding operations are almost nonexistent. However, any appreciable dings in outside surfaces of cabinets are filled and lightly sanded before they are painted.



Entrance to three cleaning and metal preparation tunnels. Laboratory technician, at right, checks chemical solutions constantly.



Berger has special paint-mixing pump room, with 16 seventy-gallon batch tanks, portion shown here with piping.

Now let's look at the finishing department as a whole. Installed several years ago, it features an elaborate air cleaning and control system that cost upwards of $1,000,000. In the spray painting and baking section of the department, some 250,000-cu.-ft. of air per minute passes through the cleaning equipment and into the rooms, "pressureizing" operations so that no foreign matter such as dust, lint or smoke can enter and alight on wet painted surfaces.

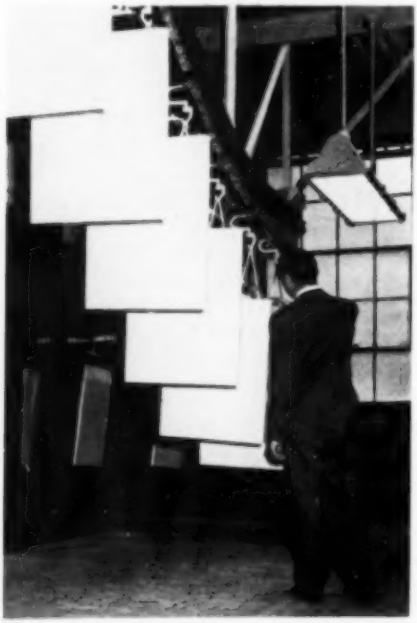
Conveyorized Through All Operations

The entire cleaning, phosphatizing and painting operations with drying and baking intervals of course, are served by more than 3000-ft. of conveyor line. Actually there are three conveyor lines . . . . Berger has three 6-stage cleaning and metal treating tunnels which include many

plant-designed features. Conveyors travel about 5-ft. per minute through these 144-ft. tunnels and the short drying ovens.

Following cleaning and phosphatizing treatment, the final bath in the tunnel is chromic acid rinse at 130° F. Then follows oven drying at about 325° F. Conveyors then make a right angle turn to enter the pressurized spray painting and baking area. But before entering this spray area, the pieces travel some 40 to 50-ft., during which time inspection and air dusting proceeds. Laboratory checks are made three times during the trip through the tunnel.

The paint control and pump room is located close to the painting area,



Bake ovens are spotted near spray booths; doubling back conveyor travel of kitchen cabinet panels shown here at exit opening.

and enclosed for absolute safety. It includes 16 individually installed paint agitating tanks of about 70-gallon capacity each. Pumps for transferring paint to spray booths are back of these mixing tanks.

Paint is delivered to the firm in 55-gallon drums. Thinner is added as paint material is dumped into the mixing tanks. This operation proceeds as follows: A monorail handling system is used to lift, transfer and dump the contents of drums into individual mixing tanks. Thinner is then poured into the "emptied" drums and the drums are agitated violently on a mechanical shaker. Thinner, when added to an emptied drum of paint and shaken violently inside, "picks up" the paint remaining on the sides and bottom of the drum, and enables it to be saved as it is poured from the drum into the mixing tank. More efficient mixing can be accomplished in this manner.

Paint Storage, Mixing, Straining, Pumping . . . .

All paint, incidentally, is strained through cheesecloth as it is poured from a shipping drum into a mixing tank—this precaution to insure a last minute check and certain removal of any foreign particles of dirt or lint. White synthetic enamels are primarily used. A steel rack in the paint mixing and control room holds several hundred drums of paint in storage.

From the paint mixing room, material is pumped to seven water-wash spray booths where steel kitchen units get a 2-coat painting —a mist and a finish application. The booths are 20-ft. and 30-ft. in

All salesmen are not engineers!

Unlike salesmen with the single ambition to sell more goods, Sales Engineers analyze customers' problems, make expert recommendations, see the job through.

Klem has no salesmen—just Sales Engineers supported by lab facilities that duplicate any production condition to assist them in solving problems.

Place your tough job in the hands of a Klem man. The assignment will be followed. The sale will be regarded as made only when the product furnished is doing the job you want done.

3 OF 20 STANDARD KLEM PRODUCTS

KLEM KOTE—Cleans, conditions ferrous metals and aluminum surfaces—imparts a phosphate coating for better paint adhesion. Non-toxic, requires no special handling precautions

KLEM KLEANER No. 144—Rapid, thorough, heavy duty still tank cleaner for ferrous metals. Removes the most difficult soil

RUST-SOL No. 124—Concentrated phosphoric acid surface cleaner. Removes oil and rust. Provides slight etch to promote paint adhesion. Meets USA 3-213, TAC-ES431 and MIL-C-10578

KLEM PRODUCT of the MONTH

Klem Water Wash Compound No. 203

Reduces Spray Booth maintenance costs, keeps circulation lines, water pumps, nozzles and baffles free of paint sludge. No. 203 floats the paint, makes reclaiming of paint easier. Write for details

KLEM Chemicals Inc.

14401 LANSON . . . DEARBORN, MICHIGAN

length, depending upon the particular product needs; for instance, some pieces may have more hidden surfaces than others, therefore entailing a longer spraying interval.

Bake ovens are spotted where needed in this department, adjacent to spray booths, and similar in length, although most of them are wide enough for the conveyor to double back for two or more lengths to give proper baking time. All three conveyor lines double back to where they entered the spraying and baking area. Space for final inspection is adjacent to the packing and shipping department, which is located just outside the area just described.

Binks Fall and Winter Spray Painting School

In announcing its fall and winter spray painting school, the Binks Mfg. Co. of Chicago, requests reservations further ahead than ever before because recent sessions have been filled to capacity. Registrations are urged now for the following sessions during the fall and winter of 1953: September 14th through the 18th; October 5th through the 9th; November 2nd through the 6th; and December 7th through the 11th.

Classes will be conducted in a specially prepared room in the main plant of the Binks Mfg. Co. in Chicago, 3114 West Carroll Ave., Chicago 12, Illinois.

The Binks school is open to all interested persons. It is especially suitable for training officials, foremen, industrial distributors and jobbers' salesmen, paint salesmen and all those who service or use spray painting equipment. Classes are composed of men with similar interests and similar problems involving spray finishing and coating.

William Beacham, well-known spray painting authority, is in charge of the classes. The discussions and demonstrations cover all types of spray guns and equipment. Every member of the class takes spray guns apart, rebuilds them and then tests the guns. Trouble-shooting gets a lot of attention. Each student actually produces such finishing defects as blushing, blooming, orange peel, shore line, etc., and then learns how to prevent and cure these errors.

During the 5-day course, Mr. Beacham discusses such other equipment as paint circulating systems, material handling pumps, spray painting booths, oil and water extractors, and catalyst painting equipment. No tuition is charged for the Binks School. However, classes are limited to 40 students and each student is expected to pay his own transportation and his expenses while in Chicago. Applications should be made two to four weeks in advance of class dates. All requests for enrollment should be sent to Mr. E. F. Watts, Binks Manufacturing Company, 3114-44 West Carroll Ave., Chicago 12, Illinois.

Mr. Beacham explains operation of spray gun to one of his students, Mr. Sutheb Kusolari of Siam, at a recent session of the Spray Painting School conducted by the Binks Manufacturing Company. This scene took place at the main plant in Chicago where the classes are held.

Metals Disintegrating Co. Appoints Distributor

The appointment of Dean Material & Supply Corp., Solvay, N. Y., as a distributor, is announced by Metals Disintegrating Co., Elizabeth, N. J., manufacturer of metal pigments, metal powders and metal abrasives.

Dean Material & Supply Corp. will serve as a distributor of MD aluminum pastes and powders and MD gold bronze powders in Central New York State, and as a distributor of metal abrasives in the central and western section of New York State.

Not Only Chemicals
But "Know How" Too
When
You Buy... **SURPHOS**

The Metal Phosphating Chemical
that Prepares Metal for Painting

SURPHOS
Is Easier to Use:

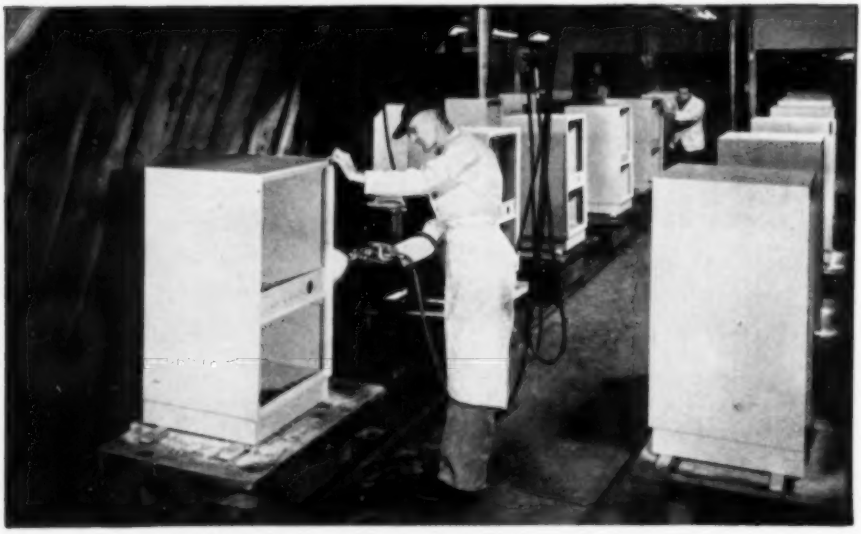
dissolve in hot water to a concentration of one ounce per gallon and apply to metal by dipping or spraying. Acid proof equipment not needed.

SURPHOS CLEANS . . . FORMS PHOSPHATE COATING . . . PREVENTS RUSTING DURING STORAGE . . . IMPROVES ADHESION OF PAINT . . . INCREASES HUMIDITY and SALT SPRAY RESISTANCE of PAINT

Our Experts Will Help You "Set Up" Your System and KEEP it working . . . .

INDUSTRIAL CHEMICAL PRODUCTS CO.
3778 BELLEVUE AVENUE DETROIT 7, MICH.

The efficient exhaust of this DeVilbiss water-wash booth makes it ideal for high-speed spraying of Magnavox components.



DeVilbiss spray gun gives operator a wide pattern at normal pressures. Fewer passes mean less painter fatigue.

BRANCH OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES THROUGHOUT

The secret of those magnificent finishes on Magnavox

Magnavox uses DeVilbiss guns to spray stain, sealer and finish coats.

The Magnavox Company, Fort Wayne, Indiana, turns out cabinets famous for eye appeal. Painstaking care – some cabinets receive seven finishing coats – and DeVilbiss spray equipment maintain top quality for Magnavox.

Magnavox uses a variety of DeVilbiss spray guns, booths, hose, connections and other accessories. Guns, for example, spray stain, sealer and finish coats. Their ball-and-cone principle of fluid tip and air cap centering assures a perfect spray pattern of uniform quality and fine atomization. Lightweight and finely balanced, they adjust exactly to the pattern desired.

The result is smooth finishes with greater depth, more uniformity. Painters are able to get uniform coverage because of the wide, even spray pattern. Result – fewer passes, less painter fatigue.

You can get complete data on DeVilbiss spray guns and other DeVilbiss equipment for high-quality finishes from your DeVilbiss jobber or our nearest branch office. Call today, or write direct to the factory.

THE DEVILBISS COMPANY
Toledo, Ohio

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FOR BETTER SERVICE, BUY
DEVILBISS

THE UNITED STATES, CANADA AND THE WORLD

Nixon Elected New Board Chairman of Hercules

Anson B. Nixon, a vice president of the Hercules Powder Co. since 1940, was recently elected chairman of the board, succeeding Charles A. Higgins.

Mr. Higgins resigned as chairman of the board, a post he had held since 1944. He also resigned as a member of the company's finance committee, but remained a member of the Hercules board of directors.

At the same time, Albert E. Forster, president of Hercules, was elected a member of the company's finance committee, to fill the vacancy left by Mr. Higgins' resignation.

Mr. Forster was elected president of the company at a board meeting April 29.

Mr. Nixon, the new board chairman, joined Hercules in 1915 as a chemist at the company's Kenvil, N. J., plant. He has served at various times in executive capacity in San Diego, Calif., Parlin, N. J., and Kenvil plants, and in the Hercules industrial research department.

Ransohoff Has New Plant

N. Ransohoff, Inc., a pioneer producer of equipment for surface treatment of metals, recently moved from its original location in Elmwood, a Cincinnati suburb, to a much larger, completely modern plant in Hamilton, Ohio.

The move provides greatly enlarged production facilities, and the consolidation of all administrative, engineering, experimental, and sales departments in one location.

The principle component of the new plant is the expansive fabrication shop with a pillarless interior as large as a football field. Two large capacity traveling cranes serve the entire shop area. Railroad cars and trucks can load, or unload, inside the shop. One adjoining building houses a well-equipped machine shop.

Officers of the corporation are: N. Ransohoff, president; John R. Strauss, vice president and treasurer, and R. C. Wigger, secretary. The company is represented in the principal centers of the American metal working industry by highly experienced sales engineers.

Pittsburgh Paint Sales Appointment

Three appointments in Pittsburgh Plate Glass Company's Industrial Paint Sales Department have been announced by E. D. Peck, vice president in charge of the Paint and Brush Division.

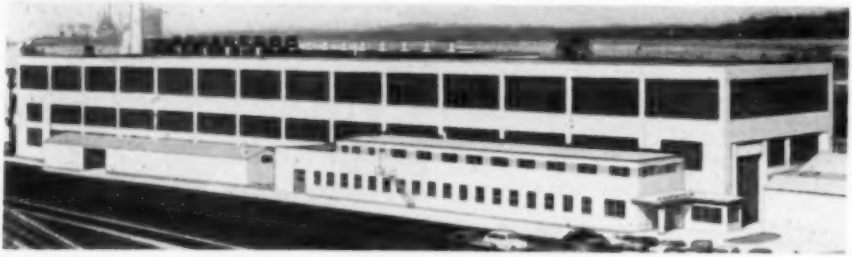
Wm. B. Calhoun, Jr.

Richard A. Bowes was appointed acting manager of industrial sales of the Milwaukee Paint Division. Succeeding him as industrial sales manager at Houston is William B. Calhoun, Jr. Named to to fill Mr. Calhoun's Atlanta position as industrial sales manager was Carl C. Patterson.

A native of Sioux City, Iowa, Mr. Bowes had charge of industrial paint sales at Houston for 13 years. A graduate of Northwestern University, he joined Pittsburg Plate Glass' Paint Sales Division in 1934.

With the company since 1935, Mr. Calhoun was affiliated with paint sales at Houston and Milwaukee prior to heading paint sales at Atlanta. A University of Wisconsin graduate, he is a native of Milwaukee.

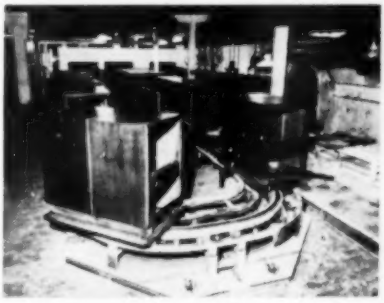
Mr. Patterson has been affiliated with the firm since 1942 when he joined the Paint Division's mid-western Industrial Sales Department. In 1944 he went to St. Louis where he was railway paint sales representative for five years.



DeBURGH Patented Conveyor System

Offers Small Wood or Metal Finishers:

- Savings of Floor Space
- Labor Savings Up to 50%
- Patented "Close-Pack" Feature
- A Better Finish at a Lower Cost
- Faster Inventory Turnover



DeBURGH'S exclusive patented features permit maintenance of the same low unit production cost regardless of production fluctuations.

The tremendous labor savings actually pay for the complete system in a year or less! How long can you afford to be without these advantages:

- Cut Out Finishing Department "Bottlenecks"!
- Eliminate Indirect Labor
- Reduce Process Inventory
- Not a "Speed-UP"!

"Designed by a Furniture Manufacturer FOR Furniture Manufacturers"

Investigate!

DeBURGH CONVEYORS, Inc.

Patented and Patents Pending

1741 K St., N. W., Washington, D. C.

HOT SPRAY LACQUERS

It is well-known, now, in most of industry concerned with finishing, that HOT SPRAY LACQUER has some outstanding advantages.

It covers better, dries faster, and is better adapted to conveyor-system spraying. All these features mean *lower finishing costs.*

ROCKFORD VARNISH is a first-class source for all types of Hot Spray Lacquers. Our laboratory sets rigid standards for formulation, using only the best of materials, and accurately prescribing the mixture to perform as you wish under the conditions in your plant.

Thus, from Rockford Varnish, you can be assured of top quality to suit your requirements. Give us the word on what you need . . .

Research, Quality, Service

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

Luxurious

The Look of Luxury adds to a fine product the master-touch that means sure sales in a competitive market. Our specialty is the creation of individualized finishes for just such a purpose . . . finishes which are not only luxurious in appearance and feel, but are interesting, refreshing, and practical as well. For such an exacting job, we maintain a laboratory where a skilled staff of technicians concentrate on individual product requirements and produce distinctive coatings which help to insure sales success. Your own inquiries are invited. . . .

Research, Quality, Service

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

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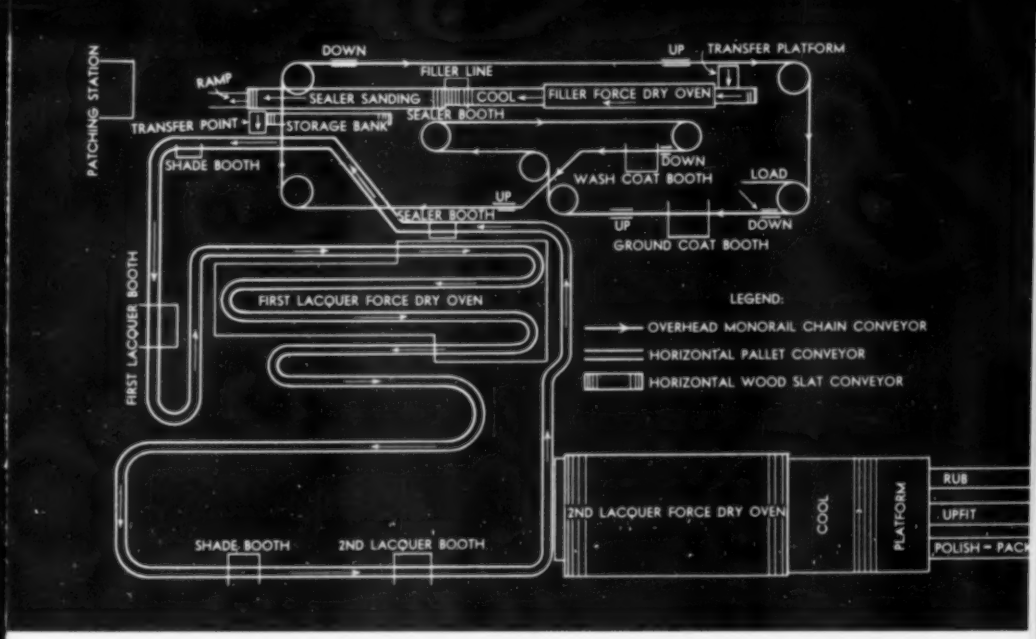
GORDON BARTELS CO.
Roller Coating Specialists

Flexible Conveyor System for Finishing Fine Furniture

BY HENRY SELGRATH
General Finishing Foreman,
Furniture Division, The Mengel Co.

IN ALL OF The Mengel Company furniture plants, conveyor systems were installed to finish a specific type of furniture. This plant was no exception. The original 18-in. off the floor, horizontal, pallet conveyor was primarily installed for finishing occasional furniture. The 30-in. diameter pallets are spaced on 32-in. centers, and the chain is driven through a variable speed drive having a speed range up to 24½-f.p.m. This is an ideal type conveyor for finishing occasional pieces.

It was then decided to change production to case goods. This change necessitated installation of additional conveyors and force dry ovens. The engineering department made a complete study of the pallet type conveyor then in use as well as other types of conveyors for finishing case goods. In the accompanying sketch, I have shown the results of this study. Due to the available space allotted for finishing and the physical layout of the building, an overhead monorail chain conveyor was decided on. The metal hangers have a platform frame 32-in.x26-in., which will accommodate a wood



Three different types of conveyors are in operation in this furniture finishing department.

pallet 48-in.x24-in. Hangers are spaced on 6-ft. centers. The chain is driven through a variable speed drive which has a speed range up to 24-f.p.m. Various width, horizontal wood slat, power driven conveyors were installed in all force dry ovens and for sealer sanding operations. Horizontal roller conveyors (not power driven) are used for bank storage at some transfer stations.

So that the pallet conveyor could be used for case goods, wood platforms 48-in.x24-in. are used. These platforms have two vertical metal anchor pins on the under side. The pins are spaced on 32-in. centers so that they fit into the holes in the center of the 30-in. diameter pallets. These pins firmly anchor the platforms and still permit case goods on the platforms to go around all curves in the line.

Now this combination of conveyors has really proved a decided advantage. It makes for speed, efficiency and flexibility. Any size and kind of furniture can be adequately handled. Through strategic location of spray booths and force dry ovens, the simplest, or the most complex finishing system can be economically used.

Glue Sizing of Wood Is A Must

For discussion, I have selected the finishing of a limed oak suite. Whether the wood is oak or mahogany, preparing the surface for the finish starts long before the furniture arrives in the finishing room. All plywood surfaces are belt sanded with 2/O sandpaper prior to glue sizing. The glue size which is mixed 10 parts of water to one part of animal glue jelly, is

Glue sizing solution is applied by roller coater. Near the outfeeding end an 18-ft. diameter carousel drier is used for drying the glue-sized plywood. The fan at right, outside drier, blows air through louvers to circulate heated air in drier.

applied to the plywood surface by means of roller coating. Electric heaters in the roller coater pan maintain the glue solution at 125° F. A carpet covered applicator roller not only applies a uniform coat of size, but the carpet nap aids in forcing the glue down into the pores of the wood. The sized pieces are then placed in the carousel type dryer for 9 minutes at 130° F. This dryer is 18-ft. in diameter, 12-ft. high, and will hold 240 pieces of ¾-in. thick plywood from 6-in. to 10-ft. in length and up to 36-in. wide. It makes one complete revolution every nine minutes. A fan circulates the heated air to aid in thorough drying of the pieces.

The plywood is then belt sanded with 4/0 sandpaper before it is assembled into furniture. This produces a clear, clean, smooth surface, for any raised grain fibers are stiffened by the glue size. In sanding, these fibers are cut off instead of being merely flattened out. The glue size also uniforms the entire surface to produce a more even finish.

Toner, Wash Coat and Filler Are Sprayed

Furniture coming from assembly is placed on the platforms of the overhead monorail conveyor which travels at a sped of 12-f.p.m. In the ground coat booth, the first operator sprays all drawer edges. The second operator coats backs only, and the third operator sprays the entire piece. A lacquer base limed oak toner is used in this booth for the ground coat.

Traveling on the overhead conveyor, pieces air dry for 25 minutes before they are given a wash coat consisting of one part sealer and

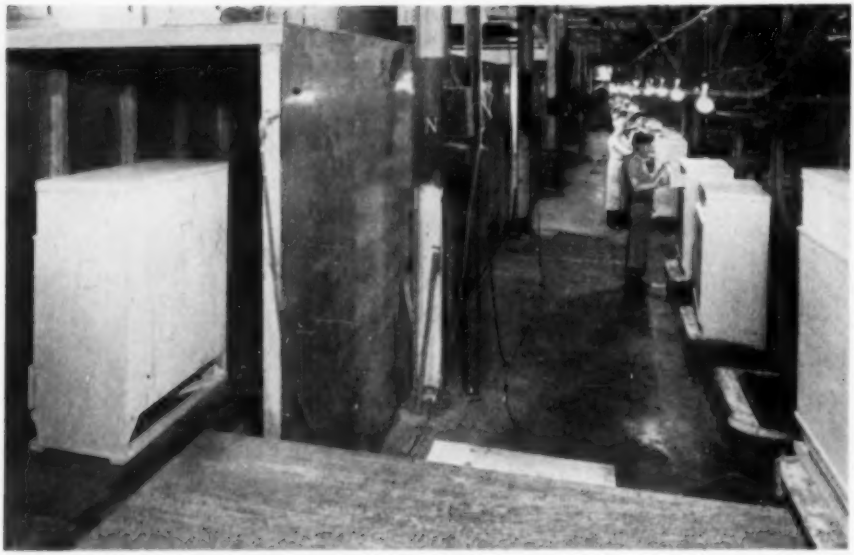
Reliance "teamwork" produces quality and production proved finishes for the radio and TV industries. Today we can count many leading independent TV cabinet producers, and most of the major "brand name" manufacturers of TV sets on our list of satisfied customers.

If your plant is producing TV or radio-phonograph combination cabinets, and must meet rigid specifications like RTMA requirements, we suggest you contact us, because meeting and exceeding these specifications is, and has been, one of our important tasks for many years.

Rely on Reliance

Write for our "Useful Facts and Figures" booklet
4730 Crittenden Drive
Louisville 9, Kentucky

RELIANCE VARNISH COMPANY *Incorporated*
LOUISVILLE, KY.
Affiliated Factories in
CHICAGO, ILL. ASHEVILLE, N. C.
LOS ANGELES, CALIF. BRIDGEPORT, CONN.



This is the filler line. Overhead conveyor rises slightly at right foreground to permit transfer of furniture across the platform to slat conveyor operating in filler force-dry oven. Inspection and blow off are done at this transfer point.

three parts thinner. We find that this retains the light colors better than shellac. Shellac is used for the wash coat on some of the darker mahogany finishes. The wash coat is allowed to air dry 20 minutes before it is scuff sanded with No. 360 wet or dry sandpaper.

Next, the pieces are given a spray coat of white, oil base filler. This is padded in with portable, air operated machines. The excess filler is removed with tow followed by wiping and cleaning operations.

At the end of the filler line, the overhead conveyor rises to a slightly higher level so that the pallets are flush with the transfer platform. Here, pieces are inspected and blown off as they are transferred to a horizontal wood slat conveyor which carries the pieces through the force dry oven at 2-f.p.m. Filler is dried for 1½-hrs. at 125° F., with 25% to 30% relative humidity in the oven. Upon leaving this oven, furniture cools for 30 minutes.

Sealer Coat is Sprayed and Sanded

This slat conveyor ends at the sealer booth. Inside this booth there is a section of steel roller conveyor which connects the wood slat oven conveyor and an 8-ft. wide wood slat conveyor on which the sealer coat is sanded. The steel roller conveyor is not power driven, but obviously it is far easier to keep clean. We use a 16% solids clear lacquer sealer. This air dries 30 minutes before it is sanded with 6/0 sandpaper. The sealer sanding conveyor travels at a speed of

CIFICATIONS

The Gilbert Spruance Company is working with many of the foremost wood and metal furniture manufacturers to create and supply them with the finest

STAINS — FILLERS — SEALERS
LACQUERS — SYNTHETIC ENAMELS
PRIMERS — PAINTS & VARNISHES

When necessary, we originate finishes to precise specifications for definite effects. Throughout the trade Spruance finishes are known for their uniformity, durability and beauty.

Spruance finishes are laboratory perfected and controlled. Our specialized technicians are at your service.

THE GILBERT SPRUANCE COMPANY
PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

1-f.p.m. While on this conveyor, furniture is inspected and small touch-up work is done. If a serious fault is discovered, the piece is removed and goes down the ramp for repairs at a patching station.

Lacquer Top Coats Applied and Force Dried

Parallel to the sealer sanding conveyor and the horizontal pallet conveyor, there is a steel roller conveyor (not power driven) used as a storage bank for the pallet conveyor which travels at a speed of 14-f.p.m. Furniture transferred to the pallet conveyor immediately passes through the shading booth where shading is applied, if required, then continues on to the first top coat lacquer booth. Here a coat of 21% solids, clear water white lacquer is sprayed. This coat flashes for 12 minutes before the pieces enter the force dry oven where it is dried for 30 minutes at 105° F. In this oven a relative humidity of 45% is maintained. A cooling period of 20 minutes is allowed before the pieces are given the second top coat of the same lacquer as the first coat. This coat is allowed to flash for 12 minutes before the furniture is transferred from the pallet conveyor to a horizontal wood slat conveyor which carries it at a speed of 11-in. per minute through the final force dry oven. The finish is dried for 1½ hours at 125° F., with 35% relative humidity. Next it cools for about 30 minutes. [*To page 58*]

The 8-ft. wide sealer sanding conveyor, at left. Sealer booth is far in background at left. A steel roller storage bank conveyor is in the center and a pallet conveyor appears at right. Shading booth is at extreme right foreground. Ramps in foreground are used to slide pieces down to patching station. Chests at extreme right are entering first top coat lacquer oven.

for color retention on light finishes-here is

CRYSTAL CLEAR LACQUER

WATER WHITE

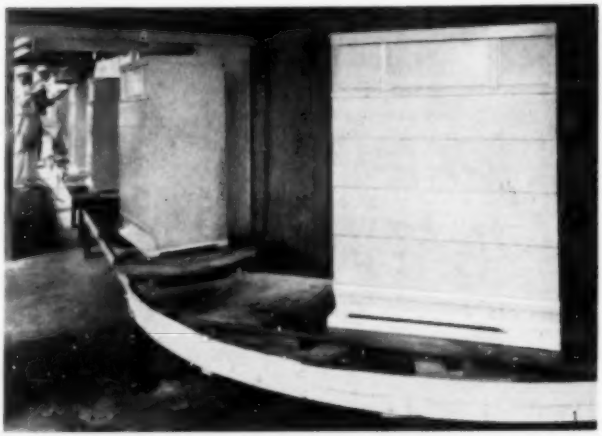
It's a new, time-tested material for preserving the original color of those beautiful grays, off whites, lime, pearl, sea mist, ermine and all pale, bleached and decorative effects so popular on furniture of today.

Crystal White Lacquer has excellent color retention, and it can be depended upon to protect the surface from the danger of discoloration due to exposure in the store or home.

A free working sample, together with finished wood panels showing the new colors, will be sent upon request. No obligation!

THE SCHAEFER VARNISH COMPANY
INCORPORATED
15TH AND MAGNOLIA LOUISVILLE, KY.

(Continued from page 56)



At left background is second top coat lacquer booth. At extreme right foreground is final lacquer force dry oven. Note platform, extending over two pallets of the conveyor, supports wide chest and negotiates curve with ease. These platforms may be removed for small pieces

Furniture is then transferred to another horizontal slat conveyor traveling at a speed of 6-in. per minute. Here, portable air operated rubbing machines are used to rub tops and fronts with No. 360 and No. 400 wet or dry sandpaper. The rubbing lubricant is a specially prepared wax base material to which nothing is added. Following machine rubbing, the finish is compounded by hand, using burlap with a prepared rubbing compound. Clean-up operations follow, then inspection. Hardware is applied next. All of these operations are performed on roller conveyors. At the inspection station, there is a double conveyor line, one of which is used for pieces requiring burn-in, touch-up and patching operations. Both lines converge to a single track where furniture is buffed with pow-driven lambswool discs. A liquid buffing material is used for polishing. As it buffs, the heat generated by the wheel dries the material to a fine powder which is easily dusted off. Final inspection and packing are also done on roller conveyors.

Personnel Changes by Carborundum Co.

The Carborundum Co., Niagara Falls, N. Y., announces several personnel changes. Among the changes are three retirements, Geo. S. Rogers, Buffalo district sales manager with 37 years service, Wm. T. O'Mara, general salesman, Buffalo district with 41 years service, and Samuel Phipps, general salesman, St. Louis district with 35 years service.

Geo. H. Dennison moves up from assistant to Buffalo district sales manager.

Wm. G. Kettner, Jr., was promoted from assistant to office manager for the New York sales district.

C. R. Strong, a general salesman in the Chicago sales district who serviced a territory in Wisconsin, was transferred to the Peoria, Ill., territory, and will sell both bonded and coated abrasives in that area. F. H. Garske, Jr., A. G. Ott and J. H. Spehr will service the Wisconsin territory formerly served by Strong.

M. I. Johnson, formerly bonded field sales engineer in the Buffalo district, was made general salesman and will service the territory formerly served by Mr. O'Mara in the Buffalo district.

G. A. Tanner, graduate sales trainee, was promoted to general salesman in the territory formerly covered by Mr. Phipps in the St. Louis district.

Mr. H. A. Johnson, a coated abrasive salesman in the St. Louis district, was assigned the South Texas coated abrasive territory formerly serviced by S. E. H. France who was transferred to the New York sales district.

H. W. McGarr, formerly a coated abrasive salesman for Des Moines-Davenport territory, was transferred to the Chicago district. The territory previously serviced by Mr. McGarr will now be served by R. D. Hulben and C. R. Strong.

PERFECTION FURNITURE FINISHES

contain none of the conventional stearates or flattening agents but are flattened by synthesis giving a waxed effect and a hand rubbed appearance.

Outstanding advantages of PERFECTION FLAT FINISHES are . . . CLARITY OF GLOSS LACQUER EVEN IN LOWER SHEENS . . . SMOOTH . . . WON'T HAZE OR SWEAT BACK . . . WATER PROOF . . . LIQUOR PROOF . . . GRADES SUITED TO BUDGET AND DRYING TIME.

WRITE FOR SAMPLES

SEE THE DIFFERENCE FEEL THE DIFFERENCE

Perfection PAINT & COLOR COMPANY

INDIANAPOLIS 2, INDIANA

HOW TO PREPARE *Aluminum* FOR PAINTING

BY A. T. THIBADEAU
Oakite Products, Inc.

WHERE PAINT is applied to protect aluminum against severe conditions of use or exposure, the preparation of the surface is almost as important as the selection of the primer and the finish paint.

The secret of proper preparation of aluminum for painting lies in making the surface inert. This prevents the formation of gas and corrosion products; and eliminates reaction between the oils in the paint and the aluminum, and between the aluminum and any moisture which might penetrate the paint film.

The first factor to consider is the metal itself. Not all aluminum alloys take equally well to paint. 2S, 3S, and 52S and 61S react better, for instance, than 24S and 75S. Alclad 24S, which has a layer of relatively pure aluminum on the surface, reacts to paint much like the one known as 2S.

Consideration should next be given to the method of treatment. Aluminum may be prepared for painting in several ways. Sandblasting and wire brushing are sometimes used on heavier sections which are subject to considerable rough usage, but they are not recommended for light gage metal because they might warp the sheet. Such methods tend to remove the aluminum oxide which is the metal's natural protection, and increase the possibility of corrosion should moisture penetrate the paint coating.

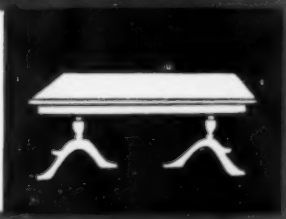
Several patented processes for treating aluminum before painting have been developed, some using a chemical treatment, some using electrolytic treatments such as anodizing. The latter method electrochemically develops an excellent, inert, receptive oxide surface for paint on aluminum parts that are destined for severe service. The chemical treatments sometimes include the use of a dilute phosphoric acid together with an organic solvent and/or chromates. Solvents clean, but generally they leave a thin film on the surface which interferes with paint adhesion. The paint-anchoring qualities of acid treatment, on the other hand, are frequently nullified by the surface soils which acids alone cannot remove.

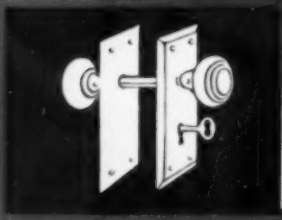
One of the most frequently used methods involves first, cleaning with alkaline solutions, and secondly, treating with a phosphoric acid material.

Materials have been especially designed to clean and condition

Long wearing Duranite Enamels in varied colors for appliances, other metal products.

Zaponite® Lacquers give furniture a rich, non-fading, mar-resistant finish.





Clear Duranite Enamels protect bright metals; resist acids, alkalis, perspiration.

Finish by

Zapak® Paper Coatings protect labels; resist moisture, abrasion and cracking.

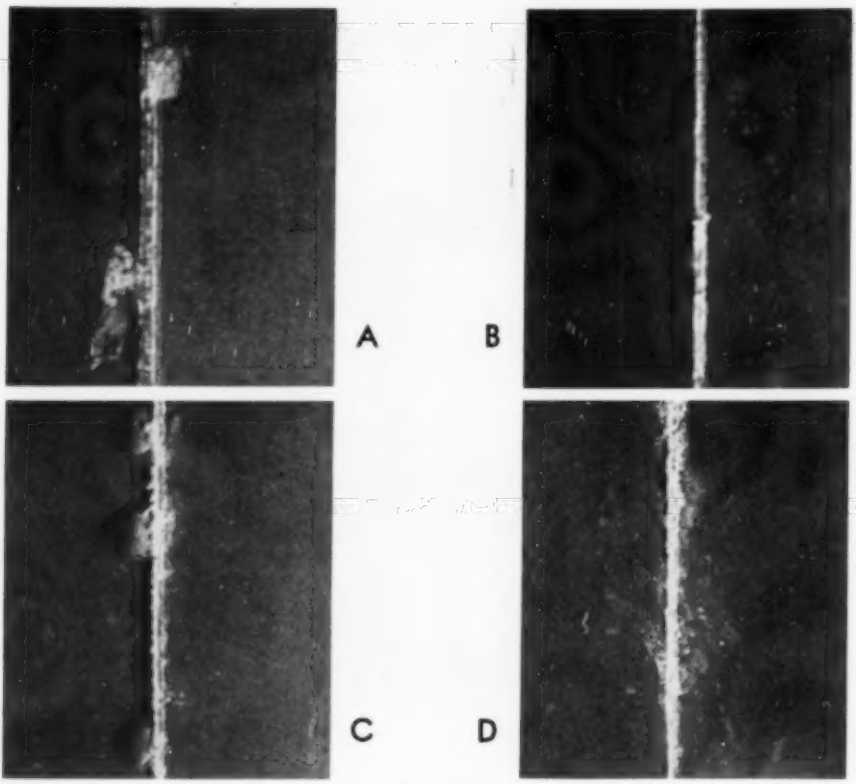
ZAPON®

"SERVICE FROM EVERY ANGLE"

Whether your product is made of metal or wood, paper or plastic, it will look better longer with a custom-tailored ZAPON finish. ZAPON "Service From Every Angle" selects the right finish for your product —and helps iron out all production finishing problems.

ATLAS POWDER COMPANY WILMINGTON 99, DELAWARE

for Industrial Finishes • Stamford, Conn. • North Chicago, Ill.



Each of the scratched panels in these photographs was cleaned, dried, given a one-dip coating of standard paint, baked on at 250° F. for 45 minutes, and exposed to 365 hours of salt spray. Panels A and B were cleaned to preserve the mill finish; panels C and D to preserve the mat finish.

The difference between A and B, and between C and D, was a one-minute immersion in Oakite Compound No. 36, 25% by volume, at 160° F. Note how the coating on panel A shows corrosion in the scratch as well as two areas where the paint has failed, and how the paint on panel C has blistered. The coating on treated panel B is virtually intact. Some signs of the severely corrosive salt spray action are apparent on panel D, but the paint coating has not failed.

aluminum so that its surface is highly receptive to paint, and its resistance to corrosion after painting or lacquering is much improved. These materials do a fast, thorough job, are easy to apply and easy to control, are safe to use, and are economical.

No one process will work equally well in every case. The choice will be determined by the type of metal, the type and amount of soil, the facilities available, the nature of the water supply, and the purpose for which the product is intended.

[*Continued on page 67*]

Standard or Special Design

YOUNG BROTHERS OVENS

solve your baking and drying problems

Electrically heated, program controlled, truck-type resinoid wheel baking oven with insulated panel type floor.

• For over 50 years, Young Brothers Company has built ovens that have solved baking and drying problems successfully for all types of industry. Whether the oven is a standard type, or a special design for a new product or process, this wide experience improves your production . . . saves you time and money. The fact that leading manufacturers in every field are using Young Brothers Ovens to meet their most exacting requirements is proof that you can get the best results by installing these ovens for every baking and drying process.

The experience gained from developing and installing thousands of batch and conveyor ovens for new processes and materials is your assurance of outstanding performance. Our engineers are available for consultation without obligation. Write for Bulletin 4 today.

Estab. 1896

YOUNG BROTHERS COMPANY

1835 Columbus Road Cleveland 13, Ohio

FINISH THAT WON'T FOLD UP under the toughest service conditions—Du Pont DULUX Enamel—is being sprayed on folding chairs by automatic electrostatic spray at the rate of 7 chairs a minute.

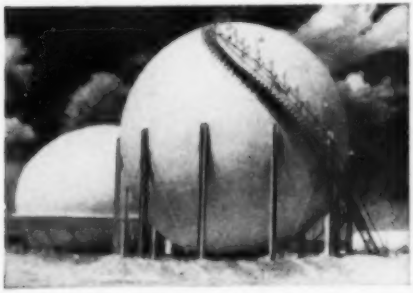
TOUGH DULUX Tractor Enamel takes hard knocks on the job . . . withstands years of outdoor exposure.

Folding chair finish that sits pretty for years

No piece of metal furniture takes more punishment than a folding chair. They're stacked one on another when not in use . . . take constant abuse when in use. To protect them, paint must have unusual resistance to chipping and hard knocks as well as smart good looks. That's why one of America's foremost metal chair and table manufacturers has turned to Du Pont DULUX. DULUX provides a handsome gloss that helps build sales . . . keeps its sparkle through the years to keep a customer's good will.

And, durable DULUX is adaptable to many different application techniques.

There are more than 12,000 Du Pont finish formulas already serving industry. If you have a finishing problem, you can get expert help by contacting the Du Pont sales technician in your area. Or, write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.



SPECIAL DULUX Tank White Enamel for oil industry reflects heat . . . reduces evaporation losses.

DURABLE, sparkling Du Pont DULUX appliance finish has sparked the sales of more than 36 million refrigerators.

Du Pont Industrial Finishes

Chemically engineered to do the job *better*

DU PONT

REG. U. S. PAT. OFF.

Better Things for Better Living
. . . *through Chemistry*

DUCO AND DULUX ARE REG. U. S. PAT. OFF.

a short, short story . . .

to be cleaned:

Wide range of parts for daily production of Mall single cylinder 5 HP gasoline engines for powering chain saws, concrete vibrators, troweling machines and generators.

material: Steel, Aluminum, Magnesium.

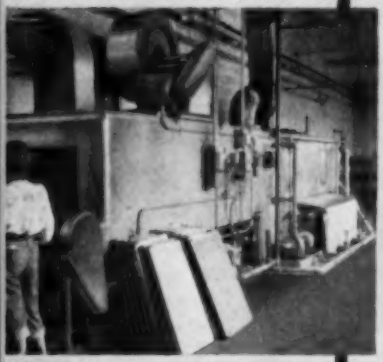
form: Stampings, Castings, Screw Machine Products, Die Castings, Machined Parts.

soil removed: Coolant, Grinding Compound, Oil, Polishing Compound, Shop Soil.

special considerations: Hollow and Recessed parts, Easily damaged parts.

to do the job:

A Cincinnati Cleaning and Phosphatizing Machine specially designed to clean complex parts.



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saving 66%
in time and labor."

MALL TOOL COMPANY • CHICAGO, ILLINOIS

what's your problem?

Write today for new, "case history" literature on complete finishing systems and single purpose machines designed, fabricated and installed by experts.

Cincinnati CLEANING & FINISHING MACHINERY CO., INC.
2006 HAGEMAN ST., SHARONVILLE, OHIO

Tank Cleaning

When tank cleaning is the method, and the surface is a mill finish where no etch is desired, it may be sufficient to immerse the part in a solution of a solvent-acid detergent. The time of immersion will vary from 30 seconds to 3 minutes. The solvent removes light to moderate soils, and the acid converts the surface layer of metal into a thin insoluble phosphate film which absorbs some of the paint, anchoring it in place.

If the soils are heavier, the parts should be cleaned in an inhibited alkaline solution, at a temperature of 150° to 190° F. After a soak of from 3 to 10 minutes, the pieces are rinsed with cold water, then immersed in the acid solution. Very heavy soils may require pre-cleaning in a solvent-detergent solution, followed by a cold rinse, alkaline cleaning, another rinse, and then the immersion in the acid solution.

In all cases, each stage of cleaning should be followed by a rinse to float off the loosened soils and prevent solution carry-over into the next tank. The entire cleaning operation would conclude with a hot rinse in the phosphoric acid type solution (at a pH of 4 to 5) and drying.

While this may sound like an interminable process, it actually takes less time than other methods. An awning manufacturer in South Carolina, for instance, found he could get better results and cut his paint preparation time in half with this method, compared to the old way of applying acid by brushing.

When it is desired to give the metal a slight etch, the aluminum is immersed in an uninhibited alkaline solution at a temperature of 160° to 180° F. Time of immersion varies from 15 seconds to 4 minutes, depending upon the alloy and the depth of etch desired. The phosphating treatment then follows, as for the mill finish described above.

Machine Cleaning

When parts are cleaned by machine, it is usually sufficient to clean and condition them for painting at the same time with a phosphoric acid material, containing detergent properties, and designed specifically for spray washing machines. This treatment is followed by a cold running rinse and hot phosphoric acid type rinse (ph of 4 to 5), then drying. If the parts are heavily soiled, it is recommended that they be cleaned first with a solvent-detergent designed for machine use.

Hand Wiping

If neither tank nor machine is available, or the parts are too large for either of these methods, cleaning may be accomplished simply by wiping with a solvent-acid detergent. Strength of the solution will vary with the amount of oil to be removed. A hot or cold rinse follows the cleaning and the parts are then wiped dry. While this is the simplest procedure, it is obviously not as fast nor as efficient as either the tank or machine method, and is recommended only when the parts are large or the volume small.

Smut Removal

The etching of aluminum alloys bearing copper or silicon will result in a slight smut on the metal. The

copper smut may be removed by a short-time immersion in a nitric or chromic acid solution. Removal of the silicon smut requires treatment in a nitric acid-hydrofluoric acid solution.

Equipment

A word of caution may be in order here. Aluminum tends to corrode when it comes into contact with dissimilar metals in these solutions. For that reason, it is recommended that racks, hooks, or baskets used in these operations be themselves made of aluminum, and that the pieces be kept away from the sides of steel and iron tanks. Suitable acid-proof tanks should be used for acid solutions.

Cleaning tanks and machines may be purchased or, in many cases, constructed in the plant. Drawings and advice on setting up equipment are available from the representatives of leading manufacturers of cleaning materials. Detailed information on specific alloys and their finishes are available in excellent booklets published by aluminum manufacturers.

Solvents & Chemicals Group Opens Louisvile Branch

Louisville, Ky., became the newest city to have a member of the Solvents and Chemicals Group, when Amsco Solvents and Chemicals Co. of Cincinnati opened its Louisville branch office on June 1.

The new office at 660 S. 5th Street, Louisville, is headed by A. M. Schulten. Mr. Schulten, a native Louisvillean and a graduate of the University of Louisville, stated that local warehouse stocks of solvents and chemicals used in the manufacture of paint, chemicals, inks, pharmaceuticals, industrial finishes and in cleaning metal would be available.

The opening of the Louisville office marks the 14th major industrial area to be served by the Solvents and Chemicals Group through its 11 member companies. Amsco Solvents & Chemical Co., acts as distributors for leading manufacturers of such products as alcohols, acetates ketones, naphthas, aromatic solvents, plasticizers, waxes, naval stores, etc.

Manufacturers in the Louisville area are invited to write or call the new office for complete details of its operation. Telephone number is WAbash 3393.

Serfass Corp. Offers Vacuum Coating Service

Serfass Corp., 524 W. Broad St., Bethlehem, Pa., announces it is equipped to apply coatings of rhodium to conductive and non-conductive materials by the vacuum process. Rhodium is being applied on a commercial basis on glass and other non-conductive materials to meet specifications of transmittancy and hardness. Rhodium has a high resistance to chemical attack, and because of its high reflectivity, is excellent for mirrors and reflecting surfaces when they must withstand corrosive chemical fumes. Coating thicknesses can be applied to give controlled reflectivity or transmittancy within 5%.

The company is also equipped to vacuum coat other metals such as aluminum, gold and silver.

Applying a coat of rhodium by vacuum process.

Industrial and...
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OVENS

PRE-HEATING and BAKING PLASTICS

YOU CAN STAKE YOUR REPUTATION ON THIS OVEN

Young & Bertke Laboratory and Industrial Ovens are used extensively for Pre-heating and Baking Plastics. The plastic fishing tackle box is a fine example of the art of plastics with its imitation alligator finish.

Young & Bertke Ovens have been installed by leading manufacturers of such products as Paints, Pharmaceuticals, Chemicals, Plastics, Electrical Equipment and by a host of others where dependability and accuracy are essential.

You, too, can stake your reputation on a Young & Bertke Oven — designed to meet your requirements.

The YOUNG & BERTKE Co.
OVENS • SPRAY BOOTHS • DUST and FUME CONTROL
2250 BUCK ST. • CINCINNATI (14), OHIO

Finishes to Simulate Gold, etc.

We want to thank you very much for your recent letter advising us names of Vacuum Metalizing concerns. These have been used to best advantage. Now, we request information as to the names of companies that supply materials for finishing die castings, etc., by the dipping or painting method to simulate gold finishes, etc.—*Buck's Baits.*

Information supplied.—*Editor.*

Zinc to Gold Color

On page 90, May, 1953, issue of *Industrial Finishing* magazine, there was one small paragraph entitled, "Zinc to Gold Color". We would be interested in looking over any information which you are able to send us. —*Metal Products.*

Information supplied.—*Editor.*

Can Supply Safety Cans

Regarding the safety cans for naphtha, referred to on page 86 of your May issue, we wish to advise that we are suppliers of these cans and would appreciate receiving the name of the company interested in them. Also, we would appreciate the name of the firm interested in Touch-up Crayons as indicated on page 90 of your May issue, as we are suppliers of this product.—*Industrial Finishing Products, Inc.*

Names given.—*Editor.*

Protective Paints and Primers

From time to time, I have seen articles in your publication regarding the new metal protective paints and primers that are acid, salt-water resistant, and dry in about 15 minutes. Will you give us the names of manufacturers of these specialties? — *Andres Lugo-Vina, Inc., Peurto Rico.*

Names and addresses given.—*Ed.*

Birch Finish on Hard-Board

We are interested in obtaining a birch finish on a hard-board product such as Hansonite (Swedish Hard-Board). Can you tell us the name of any firm that manufactures this product by some roller method or lithographing process. Also, is it possible to obtain rollers of some kind to do this ourselves?—*Cabinet Co., Inc.*

Information supplied.—*Editor.*

Oven for Baking Plastic Enamels

We are planning a new oven for baking plastic enamels up to 250° C., for use with urea, phenolic, surana, epicote and silicone resins. It must be suitable for both small and large items, since we are not by ourselves a primary manufacturer, but are the finishing department for many small factories making such items as tanks, ice cream cabinets, fluorescent reflect-

Speeds sanding of metal surfaces preparatory to priming and final finish

Speed the removal of burrs, grinder marks, and other defects in metal surfaces before priming . . . then sand primer coat to a smooth, level surface before final finish. Sundstrand Air Sanders with *Straight-Line Action* are available in single or double pad models, for wet or dry sanding on flat or curved surfaces, to handle almost any sanding operation on wood, metal, or plastics. See your local distributor or write us today for Bulletin IF-7.

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.

PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

ors, office furniture, etc. Please have your dealers send us descriptive catalogs and prices franco Tel-Aviv.—*Chemical Laboratories Givitaim, Ltd.*

Paint baking oven manufacturers notified.—*Editor.*

Paint Masks

Please send me any data you have on the production and use of paint masks. I understand you published some articles on this subject recently. —*M. Plating Co.*

Tear sheets of articles sent.—*Ed.*

Reprints Wanted

We do a great deal of spray painting, lacquer and enamel work, and are all ardent readers of *Industrial Finishing* magazine every month. We would like a reprint of the article, "The Technique of Finishing Small Wood Turnings, etc., by Tumbling". Also will you give us some names of firms making tumbling barrels and equipment? Would also like a reprint of, "Coating the Surfaces of Products by Dipping".—*W. P. E.*

"The silk screen department has been a sweet little money maker ever since it first started."

Reprints sent and names of firms making tumbling barrels and equipment supplied.—*Editor.*

Phosphate Coatings on Metal

Can you furnish names of companies who can supply materials for phosphate coatings on metal? No doubt, these concerns can also give us information on how to apply same. —*V. A. V. Co.*

Names furnished.—*Editor.*

Screen Process Printing

Have just read the article on page 48, May issue, entitled, "Screen Process", by Tony Capua, with the Hallicrafters Co. Please send me his address so that I may write Mr. Capua. Also give me the names of two or three of the foremost silk screen manufacturing concerns.—*Superintendent.*

Names and addresses sent.—*Editor.*

Wood Graining Rollers

On page 90 of the May, 1953, issue, you have a letter referring to graining rollers. We shall very much appreciate it if you will kindly send us names and addresses of manufacturers of graining rollers.—*A.A.T.*

In your May, 1953, issue, we note a letter from a reader asking for information concerning source of supply of wood graining rollers. Your reply to

AT LAST! A WOOD FILLER THAT CAN BE RECOATED IN 30 MINUTES!

SPEEDYFILL

- Eliminates Drying Time Bottleneck!
- Just as High in Quality as Overnight Drying Types!

Amazing new SPEEDYFILL fulfills a long felt need for a fast drying quality wood filler that can eliminate bottlenecks in finishing room travel caused by slow drying conventional fillers.

Because SPEEDYFILL dries like lacquer and can be recoated 30 minutes after applying in normal air dry conditions, finishing room travel time can be speeded up as much as a full 24 hours — thus increasing production while cutting work in progress inventory.

SPEEDYFILL is a quality filler that passes all conventional laboratory tests for fillers. It has filling properties equal to conventional types; is more flexible, cold check tests show, and there is no spewing, shrinkage, or pinholing.

Don't take our word for it — order a small quantity first and test it under your own conditions!

SPEEDYFILL is regularly available in white, natural, red mahogany, brown mahogany and walnut, but is also available in any color submitted to match.

BARRETT VARNISH COMPANY

1532 So. 50th Court
Cicero 50, Illinois

HANDY ORDER BLANK

Gentlemen:

Please ship me:

QUANTITY COLOR

..... 1 gal. cans of ..... SPEEDYFILL

..... 5 gal. cans of ..... SPEEDYFILL

Firm .....

Street Address .....

City & State .....

Signature .....

a complete line of dependable industrial finishes since 1870

them states that you are sending them a letter containing the names of several suppliers of such rollers. We would like to receive the same information from you, as we are contemplating wood graining operations here.—*A.C.G. (General Manager).*

We would like to request you to send us copy of the list naming several suppliers of graining rollers, mentioned on page 90 of your May issue. —*Philips Mexicana, S. A.*

We are looking for a source of supply for wood graining rollers. We would appreciate it if you could give us the name and address of a manufacturer of such a graining roller.—*H. Mfg. Co.*

List of manufacturers of wood graining rollers supplied.—*Editor.*

That "Stirring and Straining" Article

In your May issue there was an article entitled, "Stirring and Straining," which pictured three machines, a compact motor-driven paint can shaker, page 25; a drum tumbler or mixer, page 25; and a tilting cradle, page 26. We would greatly appreciate receiving the names of the manufacturers of these three machines for use in our plant.—Project Engineer.

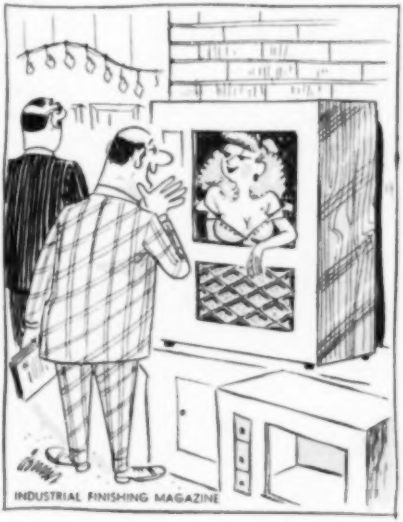
Would you please tell us the names and addresses of the manufacturers of the all-metal strainers and bent wire stands, illustrated on page 30 of *Industrial Finishing*, May, 1953, issue? —*Plant Manager.*

Will you kindly inform us as to the manufacturer of the compact paint can shaker, as described in your May issue, page 25?—*R. W. M.*

Information supplied.—*Editor.*

Wood Stains

We have had considerable difficulty in locating the right kind of wood stain for finishing television cabinets and kindred furniture. We'd like to get something to match other sets



"A magnificent performance, Miss Elrod. He likes the TV cabinet so much now, he ordered another 75,000!"

now being sold which we can best describe as being dark cherry. Can you tell us who is making stain for G.E., Zenith and Philco?—*Furniture Manufacturer.*

Suitable wood stains can be supplied by most manufacturers of wood finishes.—*Editor.*

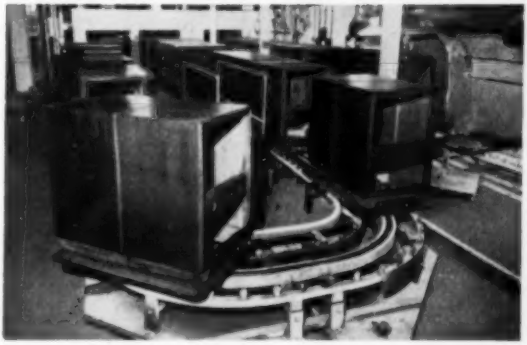
Hot Spray Units

Referring to the item on "Hot Spray Units", appearing in the May, 1953, issue, for the Commanding Officer, may we have further particulars regarding name and address of the

PUSHING... PULLING... SHOVING... CUT TO A BARE MINIMUM!

WITH A DeBURGH FINISHING SYSTEM

Your product is assembled, finished, cooled, rubbed, trimmed and packed for shipment on a fully powered palletized conveyor . . . no handling of the work from the machine parts stock to the shipping room — hence, tremendous savings in non-productive labor!



Your complete DeBurgh finishing system, engineered and installed by KOCH, offers you: production at lower, controlled costs; ultimate flexibility, a better product with a finer uniform finish, faster turnover with less process inventory and a cleaner plant.

Competition-wise, how long can you afford to be without a DeBurgh complete finishing system? Call a KOCH finishing expert now. It can very well be your wisest decision of the year!

PHONE, WIRE OR WRITE TODAY!

GEORGE KOCH SONS, INC.
EVANSVILLE, INDIANA

interested Arsenal? We believe we have something of interest to offer to this Commanding officer.—*Hogan Paint & Chemical Corp.*

Name given.—*Editor.*

"Why don't you pick up a good book on silk screen printing? You can find out where to get supplies and maybe I'll have a few silk dresses left!"

No-Mist Cloth

With reference to your May issue, page 125, you mention "No Fogged or Steamed Glasses Cloth", who makes this?—*K-K Co.*

Name and address furnished.—*Ed.*

Silicone-Base Compound

Will you please send information on the source of CP 701 silicone base compound, as mentioned on page 8 of *Industrial Finishing* for May, 1953? —*Engineering Department.*

Information furnished.—*Editor.*

"Glue-Life" (glue size)

To the many inquiries received relative to the name and address of the manufacturer of Glue-Life (glue-size), mentioned in May issue, and to others who may also be interested, this material can be purchased from The Liquafill Mfg. Co., 823 Richard St., Dayton 3, Ohio.—*Editor.*

Lupoline Automatic Polishing Equipment

Answering the many inquiries received regarding the Lupoline Automatic Polishing Equipment referred to in recent issues, further information may be obtained by writing to the Lupoline Automatic Polishing Equipment Corp., 99-111 Columbus Ave., Tuckahoe, N. Y.—*Editor.*

Plastic Enamels

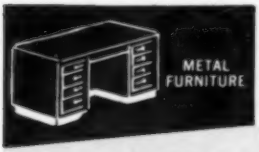
It has been told us, that in your country, a lot of plastic enamels are used nowadays which can be applied by brush or spray. The product dries even in air to an excellent hard film. It is resistant to acids and alkalis. We would very much appreciate it if you could send us a list of the manufacturers of these materials.—*Sweden.*

Names sent.—*Editor.*

Not Pressure Tanks

We have just examined the article you published in June issue on Three Dimension Co.'s finishing plant. On page 54 you show a large cut of the water wash spray booth and the cut line under the photograph makes reference to *pressure tanks.*

For your information, both of the units shown on the photograph are our *5-gallon units which dispense from*



HOUSEHOLD APPLIANCES

FARM EQUIPMENT

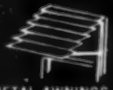
VENDING MACHINES

OFFICE EQUIPMENT

AUTOMOBILES

WOODEN FURNITURE

MACHINERY



METAL AWNINGS

PRODUCTION LINE TOUCH UP

SPRAYON "PUSH-BUTTON" TOUCH UP

touch up your products anytime, anywhere... factory-perfect job every time!

YOUR OWN FINISH FROM YOUR OWN SOURCE

In use by industrial leaders in every field, the Sprayon Self-Spraying Touch Up Tool ends your touch up problems. Protect the eye-appeal of your product—get an extra bonus of customer satisfaction—and do it with big savings in time, cost and equipment investment! Sprayon goes right to your source for your own touch up finish, custom-loads the Tools for you under your own label. Exclusive Sprayon features mean even unskilled help do a factory-match job in minutes...for pennies. Use it anywhere—from your own production line to the final customer. Nothing else to buy—it's a disposable low-cost constant-pressure spray gun—a complete paint shop in a can!

WRITE TODAY FOR YOUR FREE "PUSH-BUTTON" FOLDER

SPRAYON PRODUCTS, INC.

2075 EAST 65 STREET
CLEVELAND 3, OHIO

SPRAYON *Self Spraying* TOUCH UP TOOL

original 5-gallon pails of paint. In other words, the unit shown in the photograph simply sits over the 5-gallon pail and pumps directly from the pail.—*Gray Co., Inc.*

Reclaiming Paint Sludge

Will you please furnish us with the name of the company, or a copy of the advertising appearing in February and March issues, that offers a paint reclaiming service, as mentioned on page 80 of your April issue?—*G. Products Co.*

Information supplied.—*Editor.*

Nubelon-S Enamel Inquiries

I am interested in your illustration on page 7 of the May issue, relative to Nubelon-S. Will you kindly advise the manufacturer of same?—*W.T.R. (President).*

In your May, 1953, issue, on page 7, you mention Nubelon-S. Can you inform me who is the manufacturer? —*A.R.*

In your May issue you make reference to a silicone resin-base enamel called Nubelon-S. Will you please advise us the manufacturer's name and address?—*J.W.W. (Panel Division).*

You have a write-up in your May issue about a new silicone resin-base enamel called Nubelon-S, that is recommended for metal appliances. Will you please furnish us with the manufacturer's name or refer us to them for more information? We are interested in materials of this type to be used on school furniture which we manufacture.—*L. R. (Plant Supt.).*

It is a product of The Glidden Co., Industrial Finishes Division, 11005 Madison Ave., Cleveland 2, Ohio.—*Ed.*

Desk Drawer Slide Lubricant

We are interested in securing a suitable lubricant for the bearers upon which desk drawers slide, and which carry a considerable amount of the drawer's weight. Can you put us in touch with companies which have such a product?—*P.A.B. (Furniture).*

Information supplied.—*Editor.*

Finishing Wood Handles

Will you kindly identify "C. H. Co.", whose letter in regard to finishing wood handles appeared on pages 82-84 of the April issue. We have had considerable experience in finishing wooden handles and dowels.—*Bloomfield Chemical Co.*

Name and address given.—*Editor.*

Hot Spraying of Lacquer

We are in the process of testing the use of hot lacquers, clear and pigmented, and are anxious to obtain literatures on this subject. We are particularly interested in the article published in your December 1950 issue entitled, "Hot Spraying of Lacquer", and would appreciate receiving a copy of this article.—*H. C. F. (Fixtures).*

Reprint sent.—*Editor.*

Coating for V. Metalizing

On page 76 of June issue, an inquiry by H. N. Co., requests information on vacuum metalizing. We manufacture plastic coatings that are used in conjunction with metalizing. We have available for sample and experimental work in our laboratory a vacuum metalizing unit.

We offer customers a complete engineering service.—*Sullivan Varnish Co.*

new

National Air Sander

STRAIGHT-LINE ACTION...SINGLE PAD

FAST • LIGHTWEIGHT • VIBRATIONLESS

MODEL 600

$82.50

Here is National's new, powerful, high-production sander which weighs only 5 pounds but operates at 3200 rpm. Rapid stock removal is assured by the 5/16" stroke and 25 sq. in. of abrasive area. Either felt or rubber backing pads are available, and a built-in water spray makes wet sanding easy. National manufactures a complete line of block sanders, offering either orbital or straight line action . . . electric or air driven.

Write for further information today!

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NATIONAL AIR SANDER, INC.

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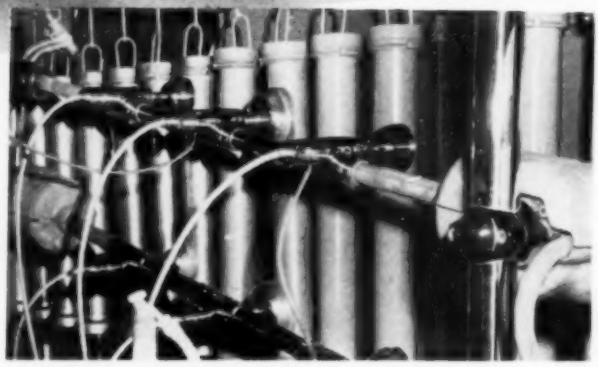
THE MAKERS OF MIRRO ALUMINUM,
ALUMINUM GOODS MANUFACTURING COMPANY
"The World's Largest Producer of Aluminum Utensils"
uses the world's finest
Spray Finishing Equipment,
THE RANSBURG NO. 2 PROCESS



Automatic, electrostatic spray painting is helping speed up Defense production in the Aluminum Goods Manufacturing Company plant. Here, they use the Ransburg No. 2 Process to paint 3"/50 caliber cartridge tanks in their Navy Rocket Container department in the Manitowoc, Wisc. plant. The Ransburg unit was selected for this job for its greater efficiency . . . consistent high quality in production . . . and economical operation.

Write for our brochure which contains detailed information on the Ransburg No. 2 Process, as well as production performance on numerous other installations.

RANSBURG ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

Baking The Finish

FROM TIME to time, one hears various complaints on baking the finish on different products. The oven manufacturer cannot be blamed for faulty baking of the finish. He furnishes an oven according to the size, temperature range and equipment as specified by the manufacturer. Often, the manufacturer supposes that the oven manufacturer should know what he requires, and consequently leaves the matter up to him.

Really, the paint supplier who formulates the paint is the one who determines the exact baking time and temperature. If the paint is formulated to cure at 300°F. for 20 minutes, the finished product may have to remain in the oven for 25 or even 30 minutes. It may require five to ten minutes before the product reaches the full heat specified. The product must remain at the prescribed temperature for the time set forth, no more and no less.

Oven temperatures should never be increased and the conveyor speeded up to increase production. Arbitrary changing of baking time or temperature will often result in finish failure. Any change in oven temperature or baking time should only be made after consulting with the paint supplier.

Well ventilated bake ovens are the key to successfully clear finishes. As the solvent fumes are heavier than air, the exhaust ducts are generally located toward the floor of the oven. Clean filtered air recirculated in the oven will aid in the baking of the finish.—*B. W.*

This overhead monorail conveyor is integrated into an industrial washing machine and carries metal stampings through various cleaning and treating processes. Photograph courtesy of Industrial Systems Co., New Brunswick, N. J.

Glidden, Its History, Etc.

A very interesting and attractive folder entitled, "We'd Like You to Meet The Glidden Company", is now being distributed.

Dwight P. Joyce, President

A brief history of The Glidden Company is given, covering its organization in 1917 by Adrian D. Joyce, to its current operations carried on in 37 plants strategically located throughout the United States and Canada.

Glidden Company products are colorfully presented, illustrating its activities in many fields, from paints, varnishes and vegetable oils to foods and poultry and livestock feeds.

Myers New Assistant General Sales Manager

Appointment of George P. Myers as assistant general sales manager, Industrial Finishes, Pittsburgh Plate Glass Company, has been announced by E. D. Peck, vice president in charge of the firm's Paint and Brush Division.

A native of Newark, Mr. Myers has been an Industrial Sals representative at the Newark Paint Division for 13 years. Affiliated with Pittsburgh Plate Glass since 1937, he will make his headquarters at the Company's general offices in Pittsburgh.

Mr. Myers, who attended New York University, succeeds Carl C. Patterson, recently transferred to the East Point (Atlanta), Georgia, Paint Division.

Learn to be Your Own Trouble Shooter

MANUFACTURERS of industrial finishing materials have service men, otherwise known as trouble shooters. To obtain their help the finishing foreman need only ask for it. Some foremen demand it often; others seldom. This divergence is, in a large measure, simply a reflection of the difference in knowledge and resourcefulness of various finishing foremen. If the foreman will try to solve each problem himself before calling for assistance, he will develop his own resourcefulness and self reliance. He will become a better foreman.

Who are these trouble shooters? Some are former finishers. Others are formulators who have picked up an understanding of practical finishing problems. How do they go about their job? Always they start by carefully observing the complete finishing operation and by asking questions. The purpose of this investigation is to learn as much as possible of what the foreman finisher already knows.

Based on what he sees and hears, the service man figures out a theory as to the source of trouble. Then he tests his theory by changing the finishing conditions, operations, schedule or the materials. Except for modifying the materials, the foreman finisher can do everything that the trouble shooter does, provided he will apply equal knowledge, intelligence and perseverance. The only way the foreman will develop his full capacity along this line is by trying.

3 QUICK FACTS
Tell How You Can
Finish Any Metal BETTER for LESS

If you want to do a better job of metal-finishing, and *save money doing it*, VINSYNITE can help you. Here's how:

1. Vinsynite is applied simply, by brush, spray or dip. It involves only one step, requires no chemical control, no heating, no special equipment.

2. Vinsynite is versatile. It performs successfully on any metal. Even if your product is made from several different metals, it can be painted *after* parts are assembled.

3. Vinsynite outperforms other coatings in adherence and corrosion-resistance. Forms a perfect base for any types of top coats.

Regardless of what you finish, Vinsynite can help you finish it *better* for *less*. Send for free booklet and specific test data.

Test specimen of steel tubing. Under severe distortion both Vinsynite and Vinyl top coat are unaffected.

SPECIALTY COATINGS, INC., Division of THOMPSON & COMPANY
1025 Allegheny Ave. Oakmont, Pa.

Vinsynite
COMBINES PROTECTION AND ECONOMY

Once the source of trouble has been rather definitely localized, it is a good plan to jot down every known factor that could affect the results. By giving consideration to each of these factors, it should be possible to pin the trouble down to some one factor or combination of them.

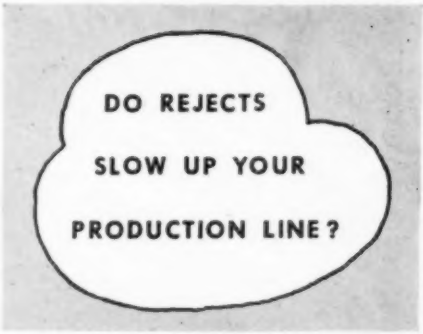
A few examples will tie the problem down.

Example 1. A salesman phoned that a white baking appliance enamel had suddenly developed poor adhesion over the primer, and that a service man must get there promptly. The service man, in this case a chemist, left an important conference and drove 90 miles. He quickly discovered that the oven heat was at about 270° F., while the correct and standard baking temperature required was 335° F. When the temperature was brought up, the adhesion came back.

Example 2. A furniture manufacturer claimed that his lacquer was spraying poorly and produced orange peel. A service man discovered that the lacquer drums were being stored outside in the winter time and put in use as soon as they were brought inside. When the lacquer was brought inside one day before being used, the trouble disappeared.

Example 3. Another furniture manufacturer was having bubbling and pinholing of his lacquer finish on mahogany. The finish salesman noted that the dusting of the work as it came from the cabinet shop was very perfunctory; the air duster was just being waved over the surface. He also observed that the padding of the filler was not being done carefully. The trouble was removed by doing a thorough job of dusting and a better job of padding the filler. In some other cases of pinholing, other or additional measures might be required.

The few examples just cited were chosen for simplicity. The foreman finisher should be able to diagnose and remedy these and other troubles.



Oakite paint strippers may help you break the bottleneck

When painting rejects slow production, you may need one of the stripping methods described in "How to STRIP PAINT", a free booklet which answers many questions about effective stripping procedures. For example:

¶ What's the cheapest way to strip metal parts in large volume? *See page 9.*

¶ What strippers are best for removing oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-base paints? . . . Japans, wrinkle finishes, nitrocellulose lacquers and ureas? *See page 12.*

FREE For a copy of "How to STRIP PAINT" write to Oakite Products, Inc., 32F Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

Dip Painting Practices

In remodeling our finishing department, we are planning to use both spray painting and dip painting for finishing the farm equipment which we manufacture.

In trying to reorganize this department, we have discovered a number of questions concerning dip painting that we are unable to answer. We would like to know if you can advise us as to where we can get information on the basic theory or practices of dip painting.

At the present time, we are using a continuous operating conveyor for dipping and an infra-red lamp bank for drying. The questions that we have are listed below:

1) What is the best method to control run-off?

2) What is the relationship between paint temperature, paint viscosity and paint run-off?

3) What is the best temperature to maintain in lamp bank for run-off and drying?

4) What is the best location of lamp bank in relation to the tank?

5) What affect will the lamp bank have on paint run-off?

6) At what temperature will run-off cease and paint start to set or dry?

These are all basic questions on the practices of dip painting, however, we do not have the answers. We will appreciate it very much if you will advise a source of information for answering our questions.—*Machinery Manufacturer.*

Those six questions could very well involve a full day of discussion. In the first place, you say you plan to dip finish farm equipment, but you do not say what type of equipment, or its size and shape, that is, contour of surface. What you plan to dip may not lend itself to this method of coating, due either to size of the pieces or contour of the surface. If a dip tank of a size and capacity in excess of 500-gallons is required (due to the size of the product), then it may be more economical to look into the possibilities of low pressure flow coating. The average size flow coater has a tank of about 200 to 300-gallons capacity, some even smaller, hence you will see that the economy lies in a smaller investment of paint. This may be worth investigating.

Whether or not you should dip or flow coat, and the type of equipment to use, speed of conveyor, length of drip pans, etc., can only be answered by a reliable firm of finishing engineers. Many such firms advertise in this magazine.

Now to get to your questions. Questions No. 3, 5 and 6 can be eliminated by stating that the infra-red electric oven has nothing to do with draining the paint from the product. All draining must be completed before the product enters the bake oven.

No. 1. The best method of controlling drainage of paint from the surface is to obtain a coating material having a viscosity sufficient to properly coat the object, then to coordinate the speed at which the object is withdrawn from the dip tank with the speed of flow of the material off the surface. The closer the two speeds are held, the less drainage there will

Conveyor Line Finishing

WHAT MAKES A TIGHT FINISHING SCHEDULE TICK?

Is it proper surface preparation, the right finishing materials for the job in progress, uniformity, properly trained personnel, or constant expert supervision? Of course, all are important and each one supplements the other for maximum efficiency and elimination of rejects.

No C.L.F.* operation is any stronger or better than its weakest link. The finishing materials must be tailor-made for the job and each operation has to be done properly and on schedule. Our laboratory staff has had many years of experience in formulating the right materials for all kinds of C.L.F. operations. Our factory-trained technical men are experts who know how to set up a good C.L.F. schedule.

If you are planning a new C.L.F. set-up, or if you are planning to convert your finishing production to C.L.F., our technical men are at your service without obligation. A phone call, wire or letter will give you the details of the recommended procedure to work out and solve your particular problems.

*Conveyor line finishing.

OUR 78TH YEAR OF SERVICE

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

Manufacturers of

FILLERS—STAINS—VARNISHES—LACQUERS—SEALERS—PRIMERS AND SPECIAL FINISHES FOR CONVEYOR LINE PRODUCTION

7430 STATE ROAD PHILADELPHIA 36, PA.

be on the drip pans. Of course, the greater or higher the viscosity is, the slower the paint will drain off the surface. Hence, the slower the object may be withdrawn from the material. The balance between enamel and solvent is highly important. Also, the type of solvent used is of utmost importance. It will be well to remember that the more paint that continues to drain off the object as it travels along over extended distances, the more paint loss, for this paint cannot be salvaged. Once the correct viscosity is established, the paint in the dip tank should be tested every hour during the work day to ascertain if the viscosity level is being maintained. If not, then solvent should be added in sufficient quantity to bring it up to the correct level. Either a Ford or Zahn cup may be used for testing viscosity.

No. 2. This question ties in directly with No. 1. The viscosity of paint is definitely reduced by heating the paint. The more heat that is applied, the lower the viscosity will be. Some firms run the paint through a paint heater or heat exchanger during the cold months, and through the same heat exchangers, using cold water to cool the paint, during the hot summer months. The working viscosity established should be based on a definite temperature, say 78° or 80°, otherwise climatic temperature changes will seriously affect the operation. I have explained the relation between drainage and temperature above.

No. 4. The bake oven should be located far enough away from the dip tank to permit all of the paint to drain from the product before it enters the oven. No one can estimate the distance because the speed of drainage will depend on the viscosity in relation to the speed of conveyor.

Going back to question 3, your paint supplier will advise you as to baking or curing time, and temperature for correct baking of the material. This will depend on the formulation of the enamel, and the type of solvents used in the original paint and that which is added to maintain the correct viscosity. Finally, paint should be circulated in the dip tank and filtered as it is circulated.—*Bardin.*

Rumbaugh to Direct Sales for Klem Chemicals, Inc.

Roy Rumbaugh has been appointed Director of Sales Engineering for Klem Chemicals, Inc. (metal cleaning and precoat conditioning materials), 14401 Lanson, Dearborn, Mich.

Previously Mr. Rumbaugh represented Klem Chemicals, Inc., as a manufacturer's agent for eight years. Before coming to Klem, he was with Ford Motor Co.

Mr. Rumbaugh's new position will place him in the field where he will work with Klem service men in an advisory capacity.

Treadwell New Sales Promotion Manager

The appointment of William C. Treadwell as sales promotion manager, is announced by G. Klinkenstein, president of Maas & Waldstein Co., manufacturers of lacquers, enamels and synthetic finishes, Newark, N. J.

Mr. Treadwell joined the organization in 1936 and actively served as a technical service representative in the New England and New York state territories. His experience in the sale of product finishes has been an invaluable asset to the company's many customers who depend on him for assistance.

Mr. Treadwell will be operating out of the company's main offices in Newark, N. J., and he will help to supervise the activity of the company's salesmen in Northeastern United States.

Lacquers · Sealers

Lacquers and Sealers in a wide variety of specifications. High or low solids. Glossy or flattened. For hot or cold spraying, for dipping or for special application methods. Tested for durability.

●

STAINS

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SPECIALTY FINISHES

●

IN STEP WITH THE TIMES

JAMES B. DAY & CO.

CHICAGO 14

Advantages of Glue Sizing Before Finishing

TO GLUE size or not to glue size the wood surface before finishing is often the question. Of course, for crotches, burls and butt walnut panels, glue sizing is almost compulsory to stop suction of subsequent finishing materials by the end grain wood. Regardless of the wood, any wood surface on which a finish is to be applied will certainly be a better surface to receive the finish if it is glue sized.

Glue sizing of wood accomplishes two purposes. First, it is entirely absorbed by the pores of the wood thereby preventing uneven penetration of any subsequent coats of stain or stain-filler. In other words, it uniforms the wood. Secondly, any fibers raised by the moisture of the size are coated with glue to become stiff and to stand straight up so they can be cut off by sanding. When the surface is subsequently sanded, these stiffened fibers are cut off by the sandpaper instead of merely flattened out to perhaps rise again before the piece is completely finished.

The application of glue size is a simple, fast and economical operation. If applied before assembly, it may be roller coated, sprayed, hand brushed or sponged on the surface. Only enough size should be applied which can be absorbed by the wood. After sizing, the wood

Easy DOES ALL THE JOB . . .

SANDING - RUBBING - POLISHING

ALL MATERIALS

WOOD - METAL - PLASTIC - SLATE

Try it!

Model J-R Air $69.50

Model DF Electric

Model AF Air

For working hard to get at areas, simply adjust sanding pad up to 1½" either side.

DETROIT *Easy* FINISHERS

3 MODELS . . . AIR OR ELECTRIC

TRY EASY - the sander that's easy on workmen - that *does all the job* - 3 to 5 times faster! TRY EASY's *adjustable sanding pad* for getting down behind drip moldings (see sketch), bumpers, other hard to get at places. *EASY STRATE-LINE ACTION-TOPS* for scuffing-sanding primer surfacer, WET or dry-waxing, polishing! ***Ask your jobber or write for new catalog sheet.***

DSM DETROIT SURFACING MACHINE COMPANY

1268 East Eight Mile Road, Detroit 20, Michigan

West Coast Distributor: H. Behlen & Bro., Inc., 1755 Berkeley St., Santa Monica, Calif.

should dry from one hour to overnight unless the pieces can be run through a force dry oven. According to the length of the convection oven and the speed of the conveyor, temperatures from 110° to 140°F. should be maintained. If temperatures from 110° to 140°F. are used it is advisable to maintain relative humidity of from 15% to 35% in the oven.

A mixture of chemical compounds compatible with both wood and glue is available. When this compound is mixed in equal parts with water to make the size, it imparts rapid spread and instant penetration. A good size may be made as follows:

One half-gallon of cold water.
One half-gallon of chemical compound.
One pound of dry animal glue.

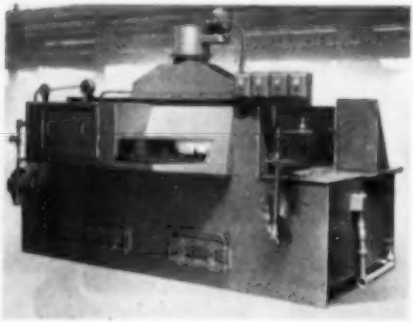
Some finishers add about ½-oz. of baking soda to the size to neutralize any fatty acids present in the animal glue. Should these acids be present they are likely to discolor the finish, especially light finishes.

All wood surfaces should be thoroughly sanded and blown off clean before glue size is applied. After the size is thoroughly dry, the surface should be sanded with 6/0 sandpaper, either by hand or belt sanding according to the volume of production. Sanding after sizing should never be done with paper coarser than 6/0, and care must be used in sanding. The purpose of this subsequent sanding is to cut off raised grain fibers, not to cut the surface down to open up new pores. If this is done, uniformity of the wood surface will be destroyed.

Through glue sizing of poplar and other species having small pores, a nice clear color is possible by using an N.G.R. stain without filler. Danger of pinholing in mahogany and other large pore woods is materially reduced through glue sizing.

Turntable Washing Machine Takes Minimum Floor Space

A newly designed washing machine, offered by G. S. Blakeslee & Co., 1844 So. 52nd Ave., Chicago 50, Ill., incorporates several interesting features resulting in economy of space and economy in operation. Machine work either in baskets or in special fixtures rides a turntable. That means a great saving in space and operating personnel. The turntable brings clean parts back to the man who put the work in the machine. High efficiency in operation is due to the turntable taking the work through a spray for washing and rinsing. It also takes the work through the air blow-off section, and then back to the loading-unloading station.



A turntable carries work through this metal washing machine, available in different sizes.

This Blakeslee unit is available in a wide variety of sizes, and turntable is designed to accommodate all types of work in various stages of manufacture. Special motor-driven pumps circulate the washing and rinsing solutions. The air, connected to the regular shop line, is controlled by an automatic trip mechanism so that air is "on" only as the work passes through the blow-off section. Correct operating temperature is maintained at all times by a Bellows operated thermostatic control valve in heating lines.

The equipment described above can be furnished for steam use or gas heat, and in special explosion-proof construction for use with petroleum solvents.

Heavy Duty Chemical-Resisting Protective Coatings

New formulations which can be spray-applied to produce *extra thick* chemical-resisting coatings on steel and other metals have been developed by United Chromium, Incorporated. These products, identified as Unichrome 5300 Coatings, are used to protect equipment against acids, alkalies, salts, oxidizing agents, and many other corrosives.

Unichrome 5300 Coatings permit spray application of films of much greater thickness than has been obtainable in the past. The new coatings, used at room temperature, can be applied to cold vertical surfaces to produce single coat dry films up to 20 mils thick. Even at these unusual thicknesses practically no sagging is encountered. Materials previously offered for similar applications usually provided single film dry thickness of about 1 mil, seldom more than 6 mils.

Strong mineral acids such as hydro-

Julian Freeman, President of Freeman Store Equipment Company, says—

"OUR M & E WATER WASH SPRAY BOOTH HELPED US DELIVER ARMY TRUNK LOCKERS ON TIME • WITHOUT REJECTS"

PRODUCTION IS UP 33% SINCE WE PUT IN THAT M&E WATER WASH SPRAY BOOTH.
PRESIDENT
THIS M&E BOOTH SURE CLEARS OUT FUMES AND OVERSPRAY
THAT'S WHY IT'S SAFE TO USE THIS FAST-DRYING NAPTHA THINNER
ISN'T IT TIME TO CLEAN UP THE BOOTH?
M&E
NOT THIS ONE. WE SPRAY TWO HOURS LONGER EVERY DAY NOW.
OUR SHIPMENT IS READY TO ROLL ON SCHEDULE.
FREEMAN

M&E

PAINT SPRAY FINISHING SYSTEMS

M&E MANUFACTURING COMPANY • 2569 WINTHROP AVENUE INDIANAPOLIS 5, INDIANA

chloric and sulfuric, alkalies such as sodium and potassium hydroxides, water, salt solutions, oxidizing and reducing agents, and many wetting agents do not attack Unichrome 5300 Coatings. Special formulations can be supplied that are odorless, tasteless, and non-toxic, making them suitable for use in contact with edible products.

Unichrome 5300 Coatings are usually applied over a special primer. Both the primer and the coating require short bakes at a temperature of 350° F. The coatings cannot be air-dried.

Further information may be obtained from United Chromium, Incorporated, 100 E. 42 Street, New York 17, New York.

O'Donohue Sales Co. Moves

The O'Donohue Sales Co., Milwaukee distributor of industrial finishing supplies and equipment, has moved to larger quarters. The new location at 3812-18 N. Hubbard St., will house general offices, laboratory and the No. 1 Milwaukee warehouse of the firm.

Electric Spray-Bake Machine

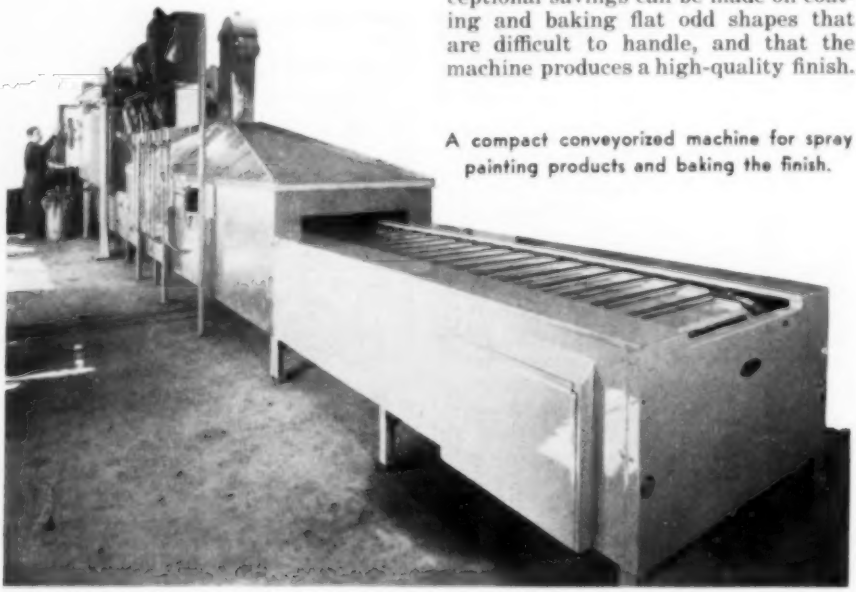
A "flat-bed" automatic electric spray-bake conveyorized coating machine has been added to its line of automatic coating machines by The Capitol Machine Co., Danbury, Conn.

The new machine automatically sprays a wide variety of flat work from small buttons to large panels. The complete finishing operation is so efficient that it is claimed the machine will pay for itself in regular production within three to six months.

The equipment, as shown here, includes conveyor, water-wash or dry spray booth, drying compartment, electric strip-heated oven and controls.

It represents a continuous conveyor operation with spray gun travel of from 18-in. to any desired width. Following the spray application, coated items travel through a drying chamber for solvent evaporation, and then into the electric strip-heated bake oven.

The manufacturer reports that exceptional savings can be made on coating and baking flat odd shapes that are difficult to handle, and that the machine produces a high-quality finish.

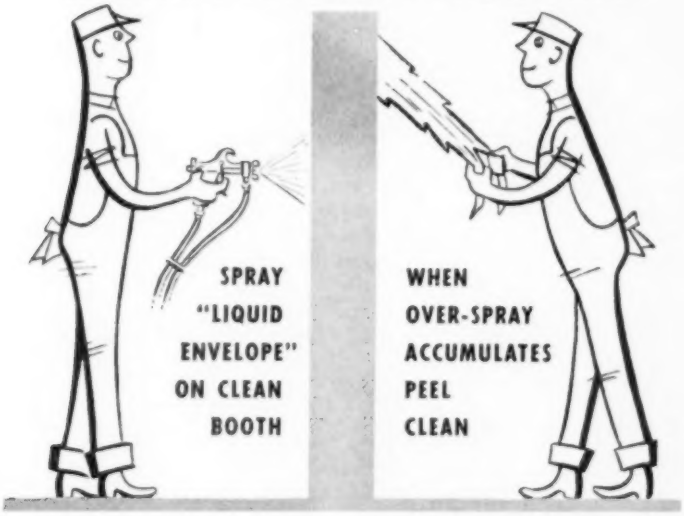


A compact conveyorized machine for spray painting products and baking the finish.

easy way to keep booths clean

"LIQUID ENVELOPE"

STRIPPABLE PROTECTIVE PLASTIC FILM



That's all there is to the simple, labor-saving, inexpensive "Liquid Envelope" way to keep booths firesafe, better illuminated, better ventilated. Costs far less than the outmoded hand-scraping or grease-papering methods. ***New Users:*** Order a 5 gallon Test-Sample at the drum-lot price. Hundreds of steady users found out that way. Why not you?

BETTER FINISHES AND COATINGS, INC.

268 Doremus Avenue, Newark 5, N. J. • 122 East 7th St., Los Angeles 14, Calif.

DISTRIBUTED BY

Abrasive & Supply Co., Detroit, Mich.
Aviation Lubricants Co., Inc., San Diego, Calif.
Bay State Spray Equipment Co., Springfield, Mass.
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The Dean & Barry Co., Columbus, Ohio
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Franklin Supply Co., Providence, R. I.
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Metal Goods Corp., Denver, Col.; New Orleans, La.;
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Protective Prod. Distributors, Hamburg, N. Y.
R. W. Renton and Co., Cleveland, Ohio
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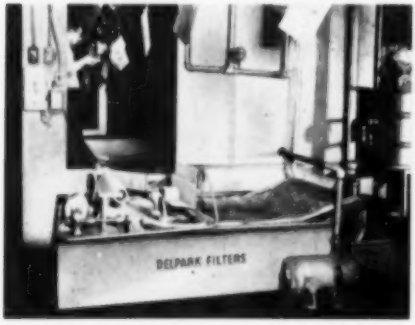
Supplee-Biddle-Stoltz Co., Philadelphia, Pa.
(Industrial Division)
Tanner and Co., Indianapolis, Ind.
In Europe:
Jenson & Nicholson, Ltd., London, Eng.

For Removal of Paint Sludge and Particles

The Delpark Corporation and the Industrial Filtration Co. of Lebanon, Ind., have perfected a filtration system for the removal of paint sludge and particles from paint spray booth water. Through the use of Delpark Filters, major problems formerly involved in the operation of paint spray booths are eliminated.

Of primary importance has been the necessity of removing as completely as possible, the overspray from painting operations. External dirt, ever present in the atmosphere of the normal manufacturing plant has, in some instances, added to the problems involved. Most modern methods require considerable labor in maintenance and hand skimming operations.



Removes paint sludge from booth water.

In the initial announcement, Mr. George L. Guymon, Vice President and Director of Sales for Industrial Filtration, stated that Delpark Systems for Spray Booth Water have been in use in leading automotive plants for the past several months. Delpark engineers have made extensive studies of this problem, coordinating their efforts with plant engineers in the automotive industry.

As a result of this engineering research, automatic skimming systems move flocculated paint to a wier over which the paint matte is delivered to the Delpark Filter. Labor is saved, spray booth efficiency is increased and, where reclamation of pigment is desirable, salvage is made easier. For further information, write G. L. Guymon, Industrial Filtration Co., Dept. 00561, Lebanon, Indiana.

Powrite Cleaning Compound

The development of "Powrite", a new rust inhibiting metal cleaning compound, is announced by Whitfield Chemical Co., Dept. 10-A, 14225 Shaefer Highway, Detroit 27, Michigan.

Straight-line monorail conveyorized 4-stage washer for cleaning and preparing parts.

This material is intended for use in mechanical power washers for removing oil, dirt, chips and abrasives from all types of metal surfaces. Other uses include, cleaning before phosphatizing, maintenance cleaning, wetting out of dust and paint overspray, conditioning of hard water to prevent scale or rust in power washers.

Rollacoat for economy
GET FINER—FASTER FINISHING!

The benefits to be gained by using the Rollacoat method of applying finishes and protective coatings, to practically any type of flat materials, are three-fold. In the first place coating speeds are greatly increased over those of any other method and are governed largely by how fast the coated materials can be handled or dried. Secondly, the coverage per sq. ft. per gallon is usually at least 50% greater, the only loss being the paint removed from the rolls at the end of a run. In the third place you obtain finer quality of finish due to accurate control of thickness and eveness of coat.

The applications of Rollacoating are numerous. Top, bottom and sides of practically any type of flat material, whether sheet or coil stock, can be coated by a single pass through the machine.

Special equipment for cleaning, treating, coating, drying, and rewinding strip in continuous process can be constructed to special order.

GASWAY CORPORATION

Write or wire today for the 12 page Gasway illustrated book describing Rollacoat Finishers, their possibilities and limitation.

6463 N. Ravenswood Ave.
Chicago 26, Illinois

Carbon Dioxide Extinguishers

A new line of portable carbon dioxide fire extinguishers is announced by the Fyre-Freez Division of Walter Kidde & Co., Inc., 260 Madison Ave., New York 16, N. Y. Known as Fyre-Freez, the new portables feature squeeze-type valves and come in five sizes—2½, 5, 10, 15, and 20-lb. models.

Using CO^2 extinguisher to smother fire.

The new portables use Kidde lightweight cyclinders, and the squeeze-type valve requires only normal hand pressure to actuate the extinguisher after the safety pin has been removed. Recharge is easy too. Simply squeeze the valve open to permit the recharge gas to enter the cylinder.

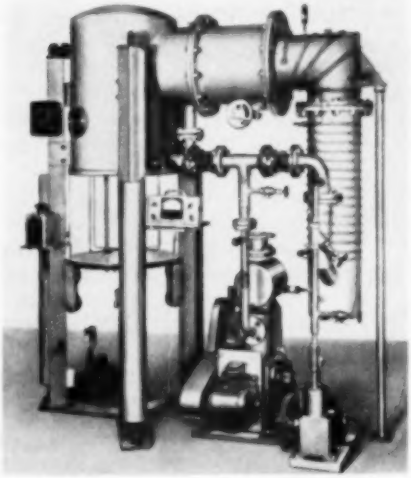
Carbon dioxide is approved for use on Class B (flammable liquid) and Class C (electrical equipment) fires. It performs its fire killing job by reducing oxygen in the fire area to a degree insufficient to support combustion. The fire is virtually smothered in seconds. Clean and non-corrosive, the inert gas is a non-conductor of electricity and eventually is absorbed into the atmosphere following discharge. It leaves no mess to be cleaned up.

Small Industrial Incinerator

Winnen Incinerator Co., Bedford, Ohio, manufacturer of "Wincinator" commercial and industrial incinerators, announces two new models, the C-10 (10 bushel capacity) and the C-15 (15 bushel). The new Wincinator models are identical with the C-4 and C-20 except for size. They are available with a choice of fuel, special controls and other optional equipment.

Vacuum Coater

National Research Corporation, 70 Memorial Drive, Cambridge, Mass., announces Model 3111 Coater for development work and limited commercial production in vacuum metallizing. Although the vacuum evaporation of metals to provide metallic finishes on plastics, metals, fabrics and glass has been established as a commercial process over the past ten years, process equipment has generally been limited either to laboratory apparatus or large production units. Vacuum coat-



Used in the vacuum metalizing process.

A *LOT MORE* THAN FANS, DUCTS, HEATERS, AND PANELS

GO INTO

LANLY
FINISHING OVENS

• The proper adaptation and utilization of the essential component parts in every LANLY OVEN for maximum operating efficiency and economy, is a certainty being demonstrated every day in factories throughout the country. Specialized knowledge evolved from long experience and close cooperation with our customers enables us to design and erect better finishing ovens.

LANLY FINISHING OVEN Completely automatic LANLY A-Type Continuous Paint Baking Oven. Compact, built-in heating system affords rapid, uniform baking. Natural hot air seals at open ends. Space under oven can be utilized to advantage.

Two Continuous Laydown Dryers

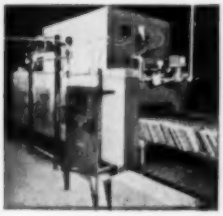
Three-Pass Oven with Air Seal Vestibules

Vertical Hollow Ware Dryer

Ceiling Suspended Continuous A-Type Paint Oven

LANLY
FINISHING OVENS
THE LANLY COMPANY • 760 PROSPECT AVE
CLEVELAND, OHIO

Continuous Wicket Type Oven



Write for the NEW LANLY CATALOG

ing equipment has not previously been available for the transitional stage between experimental work and full scale production. The Model 3111 Coater is said to bridge this gap.

A catalog sheet describing this coater is now available. The company also offers a 12-page brochure describing the vacuum coating process.

Machine Prints Cylinders on Production Line

A new machine for automatic printing of cans, canisters, tubes and other types of cylindrical products ranging from 1 to 12-in. in diameter and 1½ to 48-in. in length as part of an existing production operation, has been introduced by Adolph Gottscho, Inc.

Called the "Auto-Cylindaprinter", the machine is designed to print either complete legends or changeable codes and lot numbers on containers as they are packed, thus eliminating the need for stocking large quantities of pre-printed containers as well as saving labor for hand-stamping. Copy changes and adjustments for cylinders of different sizes may be made in a matter of minutes.

Cylinders, loaded or empty, may be fed to the "Auto-Cylindaprinter" either automatically or manually. Also, since the machine is self synchronizing, feeding need not be regularly timed or spaced.

Prints on all tubular shaped containers.

The "Auto-Cylindaprinter" is said to print sharp, permanent impressions on smooth or rough surfaces . . . fibre, paper, metal, plastic, etc., at speeds up to 80 units per minute. The machine is sturdily built, engineered for easy trouble-free operation and occupies floor space of 30x43-in. and is 50-in. high. With slight modification, it can be adapted to printing slightly tapered cylinders, such as projectile noses.

Complete details about the "Auto-Cylindaprinter" may be obtained from Adolph Gottscho, Inc., Hillside 5, New Jersey.

Fungicidal Coatings, Penetrants for Wood, Cloth, Paper

Foundry Rubber, Inc., 6100 River Road, Washington 16, D. C., announces a newly developed series of fungicidal coatings and penetrants called "Parazerve." These improved preservatives are designed to greatly increase the life and usefulness of wood, paper products, cloth, rope, etc.

The series includes six types, each for specific applications but all affording the advantages outlined here:

1) Positive proof against fungi, the causative agents of wet and dry rot. 2) Prevents moisture absorption and weathering. 3) Positive proof against termites, vermin (including rats and mice), etc. 4) Will not leach or wash out. 5) Non-poisonous to users' skin. 6) Easily applied by brushing, dipping, or spraying; pressure impregnation in unnecessary. 7) Rapidly penetrates even green wood. 8) Has pleasant odor. 9) Low in price.

All materials used in Parazerve are water insolubles which prevent fungi and moisture absorption, thus greatly

Now! for a smoother finish, improved washability, and longer-lasting whiteness

United's White Bake Enamel

Contains Silicone

Yes, to a quality white finish, United adds the one ingredient everybody is talking about—SILICONE—described in the February 1953 issue of Reader's Digest. United's White Bake Enamel offers high light reflectivity, chip resistance, resistance to food acids, detergents and other household chemicals, and with SILICONE added, it stays white longer, even under the most difficult conditions.

Test it on your product. Write today for a generous working sample.

PAINTS • SYNTHETICS UNITED LACQUERS • ENAMELS

United LACQUER MFG. CORP.

LINDEN, N. J. PHILADELPHIA 19, PA.

reducing rot and damage caused by freezing.

No hazardous solvents are used in Parazerve; special solvents are used in Type E Parazerve to prevent fire hazards when hot application methods are used.

Complete details about Parazerve are available free of charge from the manufacturer.

Chemical Black Finish For Metals

The Black Magic S.S. process for blackening stainless steel, cast and malleable iron, is announced by The Mitchell-Bradford Chemical Co., 2446 Main St., Stratford, Conn.

It is a one salt mixture; one bath process, operating at a heat of 255° to 260° F., produces a lustrous adherent black finish which will not chip, flake or peel. Immersion time in the blackening solution is from five to 15 minutes. Parts to be finished can be processed in baskets . . . .

Information and literature is available on request. Sample parts will be processed at no charge or obligation.

Stainless Steel Coating In Ten Colors

A new line of products under the trade name "Steelast" has come out of the research work done on stainless steel coating. The formula for Steelast products is basically the same as that of stainless steel coating in that both use a vinyl plastic vehicle, the primary difference being that a change of pigment makes possible the manufacture of all colors.

Steelast produces a tough film, impervious to moisture, resistant to most chemicals, and it is odorless and nontoxic when dry. It can be sprayed, brushed or dipped. It will withstand constant wet heat up to 180° F. and constant dry heat up to 300° F. Dries to handle in 30 to 60 minutes after spraying; two to three hours for recoating. May be force dried in ten minutes. A product of Steelcote Mfg. Co., 3418 Gratiot, St. Louis 3, Mo.

Electric Branding Tool

A new patented tool called the Burn-Watt Electric Marker, is now being made and marketed by the Burning Brand Electric Co., 4554 N. Broadway, Chicago 40, Ill.

Permanently marks underside of furniture.

This new branding tool is reported to apply a permanent trade-mark on furniture and other wood articles in a matter of seconds, as easily as using a rubber stamp. Brands can be made in any size and style of lettering required. The tool is simple to operate and seldom requires maintenance. Descriptive circular will be sent on request.

"FINISHING KNOW-HOW"

SYNTHETICS • VARNISHES • ENAMELS • LACQUERS

Yours for the asking are all the benefits of the highly specialized knowledge of your Egyptian Industrial Finishes Technician. The Know-How gained from thousands upon thousands of finishing problems, all successfully solved by Egyptian Laboratory ingenuity, uniquely equips the Egyptian Organization to be your finishing consultant. Whether your problem is to develop a coating to add life and durability to your product . . . one to perk-up sales appeal . . . a system to speed production or an exacting formula to meet defense work specifications . . . you'll find the quick, the easy, the efficient way is to call on Egyptian Finishing Know-How.

EGYPTIAN

INDUSTRIAL FINISHES

The EGYPTIAN LACQUER MANUFACTURING CO.

Box 444, Newark 1, New Jersey

Plants: South Kearny, N. J. • Lafayette, Ind.

Portable Sand Blaster

The Block Buster is a new portable sand blasting machine which is easy to operate. The machine uses any clean dry abrasive that will pass through the 16-gauge screen—metal shot, flint shot, grit or finer sandblast sand such as No. 00, No. 0, or No. 1.

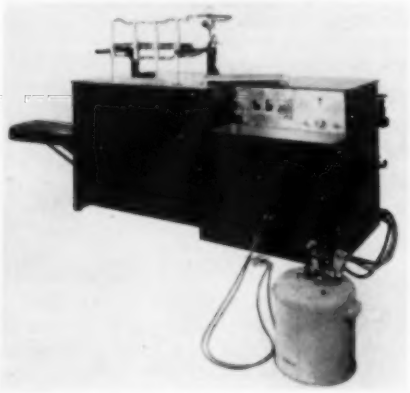
It has no moving parts or mixing chambers and operates from any direct air line or compressor having 80-lbs. or more pressure. The average air consumption is 30 to 35-c.f.m. depending on nozzle size and air pressure used. Pressure is adjustable to from 30 to 120-lbs. for each specific job.

Complete technical data may be had by writing The Carson Co., Investment Bldg., Washington 5, D. C.

Electrically Dial-Controlled Spray-Decorating Machine

A new, automatic, spray-decorating machine which is electrically dial-controlled for loading or dwell time and gun-spraying time, all within the tenth of a second, has just been developed by the Conforming Matrix Corporation.

The machine can paint from zero to a 24-in. stroke. The air hold-down pistons are fully adjustable and automatically coordinated with the painting cycle. In stationary position, the machine will cycle up to 3,600 times per hour—probably faster than any operator could handle the parts.



Dial-controlled automatic spray painting.

The illustration shows one of these machines which is now painting 600 refrigerator door shelves per hour, with masking over an area 24-in. long.

Literature on this new machine, and other automatic spray-decorating machines, tools, clamps, fixtures, masks and mask-washers, will be sent free upon request to the Conforming Matrix Corporation, 331 Factories Bldg., Toledo 2, Ohio.

Water-Cooled Aftercooler

Production of a water cooled aftercooler for removing oil and moisture from compressed air systems from 100 to 500 CFM, is announced by the Heat-X-Changer Co. of Brewster, N. Y. The new product supplements the concern's line of smaller capacity aftercoolers. The use of longitudinal inner-fins, a patented Heat-X development, permits maximum heat transfer with minimum pressure drop. Use of the inner-fin also makes for a more compact design than was previously possible.

The entire assembly of tubes, inner-fins and tube sheets is of copper and brass construction for high corrosion resistance and long life. Tube bundle is easily removed for cleaning or replacement.

Developed for use in conjunction with the new aftercooler is a separator for removal of oil and moisture. The strainer element is of non-ferrous construction and readily removable for cleaning or inspection.

Heat-X officials state that some of the advantages to be gained by using aftercoolers in connection with compressed air systems include: Protec-

BRASSWARE

answers to problems

in BRASS FINISHING

Exceeds specifications 20 times over! Specifications for refrigerator brass trim called for a finish to withstand 500 hours of 100% relative humidity at 110F. The lacquer being used by this Ohio company failed to stand up, causing a production snag.

Consulted on the problem, "The Unichrome Man" was confident it could be solved. Samples were submitted and tested by the company. Results were extraordinary. The corrosion resisting Unichrome Clear Enamel was adopted after 500 hours. But it then went on to remain in perfect condition for 11,850 hours – that's 493 days! – when attempts to break down the coating were discontinued.

Immune to paint removers. With doorknobs subject to spattering from housepaints, a lock manufacturer was looking for a clear finish that would remain unharmed when knobs were cleaned with paint removers. United Chromium solved this unusual requirement with an unusual baking clear synthetic – one with resistance not only to solvents but also to handling, moisture and exposure.

★ ★ ★

This quality is typical of both standard and specially developed Unichrome coatings. Consult "The Unichrome Man" about a better finish for *your* products.

UNICHROME Trade Mark COATINGS for METALS

Metallic ..... Organic ..... Decorative ..... Protective

Products of UNITED CHROMIUM, INCORPORATED

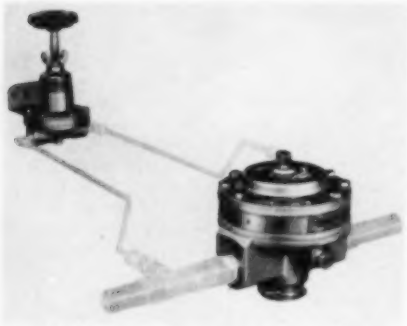
100 East 42nd St., New York 17, N.Y. • Detroit 20, Mich. • Waterbury 20, Conn. • Chicago 4, Ill.
Los Angeles 13, Calif. • In Canada: United Chromium Limited, Toronto, Ont.

tion of pipelines against rust and corrosion, protection of air instruments against fouling, elimination of freezing in pipelines and air tools, prevention of receiver tank explosions and improvement of paint spraying operations.

Free descriptive bulletins are available on request by addressing the Heat-X-Changer Co., Brewster, N. Y.

Pilot Controlled Air Pressure Regulator

A new pressure regulator is announced by the C. A. Norgren Co., manufacturer of regulators, micro-fog lubricators and other pneumatic products. It consists of a pilot-controlled air pressure regulator designed for precision air control over a wide range, from 2-p.s.i. to 120-p.s.i., with a capacity to deliver 200-c.f.m.



Regulates air pressure accurately.

Another advantage of this unit, it is stated, provides greater flexibility and efficiency in machine design and plant layout, and a more convenient setup for plant personnel. The pressure regulator can be placed where it will be most effective, and the separate pilot control regulator located where it will be most convenient.

Further details may be had from C. A. Norgren Co., 3427 S. Elati St., Englewood, Colorado.

New Sander-Polisher

A new, translatory action sander-polisher for sanding, filling, feathering and polishing metals, enamel, and other surfaces, is announced by the Cyclo Mfg. Co., 2140 So. Delaware St., Denver, Colorado.

Has two counterbalanced heads

Two counterbalanced heads eliminate all centrifugal force and give the finest hand finished results without swirl marks, scuffing or burning.

Special cups are available for all types of grinding, smoothing and polishing of base metals and other raw surfaces. Regular wiping cloths, chamois or lambs wool may be used for final finishing on enamel, wax and other high gloss surfaces.

Equipment weighs approximately 8 pounds, and is available in either electric or air operated models.

Strippable Liner for Vacuum Coating Tanks

National Research Corp. now offers Narliner strippable liner for vacuum coating tanks. In the vacuum metallizing process, the interior of the coating tank becomes covered with successive layers of evaporated metal. This material is difficult to remove and out gasses badly when the tank is evacuated, thus increasing the pump-down time. By coating the in-

SELF-CLEANING *Clear-flo* STRAINER
4 TYPES FIT ALL MAKES OF SPRAY GUNS

ORDER CORRECT MODEL

- **A** Fits all models of SPRACO spray guns.
- **B** Fits BINKS, SHELMATIC, BLACK AND PAASCHE, and the small de VILBISS spray guns.
- **C** Fits KELLOGG, CROWN, SPRAYIT, and DE CORA spray guns.
- **D** Fits standard de VILBISS spray guns.

For other makes, check with us for correct model.

A CLEAR-FLO strainer on the end of the intake tube of your spray gun keeps production humming. Paint need not be pre-strained, and experience shows that you SAVE ONE MAN HOUR PER GUN PER DAY by eliminating time out for cleaning, reworking spoiled work. Cleans itself when gun is cleaned. Quickly and easily installed and changed. Manufactured from finest brass screening. Cost so little, lasts so long, each Clear-Flo strainer more than pays for itself.

Photo above shows what happens after a single day's use. Note how material that normally would clog the gun is stopped, yet the strainer works at full efficiency. Although photo of gun has been retouched, strainer part is exactly as photographed, without retouching.

CLEAR-FLO STRAINER CO.
8050 35TH AVE. N.E. SEATTLE,5,WASH.

terior of the coater with Narliner strippable liner, these metal accumulations can be removed periodically by merely stripping the plastic coating from the tank and short metallizing cycles are thus maintained.

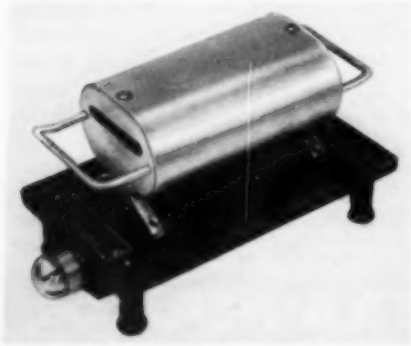
Narliner is available in one and five gallon containers from National Research Corp., 70 Memorial Drive, Cambridge 42, Massachusetts.

Op-Al Knife Heater Improved

An important improvement in the Op-Al Electric Knife Heater, which has been used in finishing departments for more than 30 years, is announced by the manufacturer, Op-Al Electric & Mfg. Co., 809 N. Senate Ave., Indianapolis 2, Ind.

The design of the end brackets, which hold knives in place while they are being heated, has been changed so that there is less possibility of the knives sliding or falling out of the heater. Instead of these brackets extending straight out from the heater, the new end bar curves upward so as to provide a pressure fit, when knives are inserted in the slot.

According to the manufacturer, these heaters are constructed from reflective materials to give long, sustained service at a very low current consumption.



Have uniform heat while pilot light shines.

The model shown here is Type "KP" with integral neon pilot light. Type "K" does not have the pilot light. Heaters are made for both 110-volt and 220-volt current.

Portable Paint Mixer

The Chemineer dolly mixer is announced. This 1-h.p. mixer moves easily on two fixed and one swivel caster, and is positively positioned by a strong truck lock. It is said to be ideal for small batches, color mixes and for use in congested areas.

Portable propeller-type mixer can be tilted.

The mixer is balanced so that it can be readily tilted in or out of the mix. Also available is a quick-lock coupling from motor to shaft so that one drive head can be used for any number of shaft and propeller assemblies.

For further information write to Chemineer, Inc., 511 W. 2nd street, Dayton 2, Ohio.

⇦ We never leave 'em behind the 8 ball!

A CASE HISTORY ON SOLVING A LACQUER PROBLEM FOR BROWN & BIGELOW

Brown & Bigelow mechanical advertising pencils are known from coast to coast. Not so well known is the important role played by PYROXCOTE lacquer materials in the manufacture of these pencils.

Unlike many competitive pencils, the Brown & Bigelow product never feels tacky in hot weather — never discolors nor stains — never picks up color from carbon paper.

PYROXCOTE lacquer is applied directly over printing on the plastic barrels of these pencils. This special coating does not induce plasticizer migration from the plastic—neither does it distort nor swell the ink impression. PYROXCOTE has perfect color stability — has that pleasant smooth "feel".

PYROXYLIN PRODUCTS, Inc.
CHICAGO 32

WRITE TO OUR NEAREST OFFICE FOR PROMPT INFORMATION

PAOLI PENNA.

WICHITA KANSAS

SEA-LAC

POLYCHROMATIC
finishes for
POLYSTYRENE

STICK TO THE JOB

No longer do you have to put up with the tricky problems of how to get enamel to adhere to polystyrene. Now — SEA-LAC'S newly developed enamels go on polystyrene—easily, and stay put — permanently! What's more, these SEA-LAC enamels come in rich colors and metallic finishes. Write for samples.

Duralac Chemical Corp.
84 LISTER AVE., NEWARK 5, N. J.

Anti-Rust Paint That Can Be Applied to Wet Surfaces

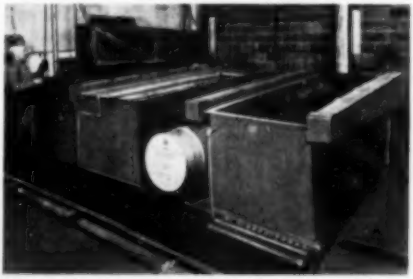
A new anti-rust paint that can be applied to wet surfaces under adverse weather conditions is now being manufactured by a California firm for introduction to the American market. If claims put forth for the product are substantiated, large-scale construction and maintenance firms may soon look forward to the elimination of bad weather as a contract hazard.

The paint was created to eliminate ferric corrosion. It can be applied by brushing or spraying to wet or slightly rusty surfaces under weather conditions such as early morning dew, atmospheric rust, fog, light rain or light frost.

The compound, which is being used in Europe, is one of the number of new formulas dealing with corrosion and recovery that have been created by Dr. Robert Wachtel, noted Swiss chemist. They bear the trademark "Kerostal" and are now being manufactured at the Wachtel Laboratories, Inc., 1631 S. 10th St., San Jose, Calif.

Alka-Strip

A new addition to its line of multi-purpose paint strippers and cleaners has been announced by the Whitfield Chemical Company, Dept. 10-C, 14225 Schaefer Highway, Detroit 27, Mich., manufacturers of industrial metal



Dip tank system is served by overhead hoist for cleaning and rust removal.

Get Better Baked Finishes in GEHNRICH Recirculating Ovens

Gehnrich Recirculating Ovens—truck, rack or conveyor types; gas, electric, oil or steam heated — are built to meet your specifications for output, quality, economy. What's your oven problem?

W. S. ROCKWELL COMPANY
2783 Eliot St., Fairfield, Conn.

cleaning chemicals and processes. The new remover is sold under the trade mark Alka-Strip.

Used for chemical stripping of organic finishes and complete removal of pigmented-primer residues from steel, zinc, and magnesium, Alka-Strip can also be applied for deflocculation of paint overspray, cleaning Bonderite systems, and removal of abrasive, lapping, or burnishing residues.

Alka-Strip can be applied in tanks, mechanical washers, spray booths, or dust collectors, using a concentration of ½ to 32 ounces per gallon of water at temperatures from 70° F. to boiling. A spray rinse is beneficial for complete removal of residue.

This latest Whitfield remover comes in powder form; water soluble, noninflammable, it does not foam or cake; nor is there a disagreeable odor when applying Alka-Strip.

Metal Bonding Tape

Coast Manufacturing and Supply Co., Box 71, Livermore, Calif., announces production of a glass fabric supported metal bonding adhesive. This material, originally designed for joining aluminum surfaces and skins to honeycomb core in aircraft construction, became apparent that the adhesive was effective as a bonding agent for other surfaces as well, including the common ferrous and nonferrous alloys, plastics, glass, ceramics, woods, leather and textiles.

In appearance, Trevabond FM-47 is a film of translucent yellow resin reinforced by an open weave glass cloth. It comes in three coating weights, light, medium and heavy grade. The total thicknesses of the three films are 0.013, 0.022 and 0.030 inches. For further details write the company.

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Marks Cylindrical Products

The Cylindaprinter, a small semi-automatic machine for imprinting cylindrical products ranging from small electronic parts like condensers and resistors to 2-in. diameter tubular casings and containers, has been re-designed and improved, according to Adolph Gottscho, Inc., Hillside 5, N. J., manufacturer of codedating and marking equipment. It is used for printing trade-mark designs, part and code numbers, identification data, etc.

Portable Fluorescent Inspection Lights

Two new fluorescent portable inspection units, with or without magnification, are now available.

These units offer intense, glare-free white light without objectionable heat. The two or four power lens is straddled by twin fluorescent lamps for maximum seeing ability and comfort. These new Lite-Mite units can be equipped instantly for ultra violet radiation. Lamps are rated at 7500 hours life.

Complete catalog available on request to Stocker & Yale, Inc., Marblehead, Mass.

New Non-Fading Organic Metal Finish

A non-fading and corrosion resistant organic finish is now being applied to aluminum, brass, steel and zinc coils in widths from ⅛ to 30-in., .010 to .036-in. gauge, in continuous lengths. This baked enamel type finish stands up well under forming, drawing, bending or fabricating of the metal. Tests

have shown that it will not crack, chip or chalk even under abnormal use or severe weather conditions.

Typical applications vary all the way from bottle caps to metal awning covers, including wall tile, picture and mirror frames, eyelets, drapery and curtain hardware, tubing, clips, toys, lighting fixtures, and many others.

Standard colors are blue, brown, yellow, green, red, white and black. Other colors can be specified. Surfaces are available plain or crimped.

For further information, write to Apollo Metal Works, Dept. 13, 66th Place and South Oak Park Avenue, Chicago 38, Illinois.

Michigan Offers Fellowships In Protective Coatings

Three fellowships in the Protective Coatings Section at the University of Michigan are available to graduates either in the field of Chemistry or Chemical Engineering next year.

It will be possible for recipients of these fellowships to take the work for the Master of Science degree in either Chemical Engineering or Protective Coatings. Depending upon the qualifications of those selected, the stipend will range from $1500 to $1800.

This is an excellent opportunity for any qualified college graduate who desires to become an expert in the Protective Coatings field. Write Dr. L. L. Carrick, Chem. Eng. Dept., University of Michigan, Ann Arbor, Mich.

April Paint Sales Set Record for Month

April dollar sales for the paint, varnish and lacquer industry, as reported by the Bureau of the Census, totaled $131,114,000. This is a new record for the month and is the third highest month ever recorded by the industry, exceeded only in August, 1950, and March, 1951. It is 5.2 percent above sales of $124,670,000 for April, 1952.

Industrial sales for the month were $51,595,000, an increase of 16.5 percent above the April, 1952, figure of $44,287,000. Industrial sales for the year through April were $187,988,000, an increase of 10.9 percent over the 1952 figure of $169,520,000 for the same period.—*Coatings NPVLA.*

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For the protection of
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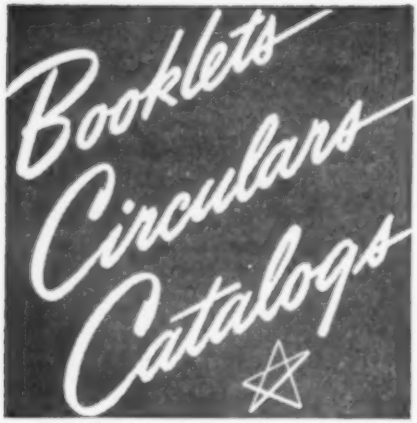

Stokes Vacuum Metallizing Units Described

A new catalog, No. 750, just issued by F. J. Stokes Machine Co., 550 Tabor Road, Philadelphia 20, Penna., includes an illustration and description of the company's vacuum metallizing units. This equipment is used for applying coatings of aluminum, zinc, copper, gold, silver and other metals on such materials as glass, plastics and paper. Copies of Catalog No. 750 may be obtained free upon request.

Vinsol-Resin Booklet

A new technical booklet giving up-to-date information about the use of Vinsol, a low cost, dark colored resin, in a variety of applications, is available from Hercules Powder Co., Wilmington, Delaware.

Applications for Vinsol discussed include its use in adhesives, asphalt emulsions, hydraulic cement, electrical insulation, ink, shoes, floor coverings, paper, plastics and protective coatings.

Information about the forms in which Vinsol is available, and properties of the resins, is included in the booklet.

Corrosion Resistance of Copper and Copper Alloys

This is the title of a new 28-page booklet just issued by The American Brass Co., Waterbury 20, Conn. The chemical and physical nature of corrosive attack in its various forms are fully explained, including a tabulation indicating the relative corrosion resistance of the principal types of copper and copper-base alloys when in contact with 183 different corroding agents. The booklet, designated as Publication B-36R, is available free upon request.

Laboratory & Finishing Equipment Catalog

A new illustrated 16-page catalog has been released by Dispersion Specialties Supply. This catalog lists all sorts of plant and laboratory equipment especially selected and designed for users of paint, lacquers and varnish.

For a free copy, write Dispersion Specialties Supply, P. O. Box 113, Orange, N. J.

Pressure Sensitive Tape Dictionary

A tape number dictionary which gives quick, easy identification of pressure sensitive tapes is now available.

Information on hundreds of pressure sensitive tapes has been gathered and reproduced in a convenient pocket-size booklet. Each tape number is listed in sequence with the manufacturer's name. For each tape, there is included a description of its construction. This booklet is an aid in determining the right tape for a specific job.

To obtain this dictionary, send 25¢ in coin to Polyken Industrial Tape, 222 W. Adams St., Chicago 6, Ill. Order by number P3-4.

Rubber Lining Bulletin

An illustrated, two-color, 8-page bulletin describing the advantages and application of rubber lining to steel tanks, drums, pipes, valves, fittings and pumps, has been published by the Protective Coating Division of Metalweld, Inc.

Included in the bulletin are important tables giving the resistance characteristics of rubber lining to inorganic acids, salts and alkalies, organic materials and a wide group of miscellaneous materials. Details on the chemical, abrasive and temperature resistant qualities of rubber linings and the different types of linings available are also given.

For a free copy of the bulletin, write Protective Coatings Division, Metalweld, Inc., Scotts Lane & Abbotsford Ave., Philadelphia 29, Pa.

Bond for Organic Finishes

"A Better Bond . . . for Organic Finishes", is the title of a new 4-page folder (8½x11-in.) recently released by Turco Products, Inc., of Chicago, Newark, N. J., Houston, Texas, and 6135 S. Central Ave., Los Angeles 1, Calif. The company manufactures and sells chemical processing compounds for cleaning and conditioning metal surfaces in preparation for painting or lacquering.

Facts revealed include why and how

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mm . . m . . . wonderful stuff for industrial finishing!

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metal surfaces are cleaned, Government specifications, methods of application, materials available, etc. Quoting from the bulletin:

"Turcoating is a process which puts a gray chemical coating on metals. The coating consists of a complex growth of ono-metalic srystals, soft and porous, yet firmly adherent to the surface. Most of the Turcoats are phosphate compounds; their function is to hold paint or other organic coatings closely bonded to metal surfaces. The Turcoat, interlocked with the surface, thus makes a combination that wards off moisture, chemical fumes, air, local electric currents and friction—all the conditions that contribute to breakdown and corrosion of metals."

Address of Turco's Chicago office is 75 E. Wacker Drive, Chicago 1, Ill. More than 70 other offices are listed in the bulletin.

Flexible Liquid-Tight Conduit Booklet

Said to be the first of its kind to gain Underwriters' Laboratory approval for use in wet locations, Sealtite flexible liquid-tight electrical wiring conduit is described in a 4-page illustrated booklet. Suggested applications and specifications are included.

Made with a flexible galvanized steel core, positive ground and tough synthetic cover, this conduit protects wiring against moisture, dirt, chemicals and corrosive fumes. Write for bulletin UA-530 to The American Brass Co., American Metal Hose Branch, 692 Main St., Waterbury, Conn.

Synthetic Resin-Base Coatings Folder

The advantages and use of synthetic resin-base coating in the chemical industry are described in a new 8-page illustrated folder published by Bakelite Company, a Division of Union Carbide and Carbon Corporation.

The brochure, "Bakelite and Vinylite Resin Coating for the Chemical Industry", presents sixteen case histories of actual industrial coating applications. Those particular resin-base finishes exhibit excellent resistance to most acids, alkalies and other chemicals. They are inherently flexible and abrasion resistant. Even coatings as thin as 4-thousandths of an inch provide increased protection to equipment, extend surface life and reduce maintenance costs. Available through the coatings industry in a wide variety of colors, these coatings may be applied by spraying, dipping, roller-coating or brushing, and are quick drying.

Specific applications of coatings based on Bakelite and Vinylite resins decribed

in the folder include tank cars, oil pipe, acid tanks, sewage disposal plant, hopper car, shipping containers, plating rack, and steel tubing. The pamphlet also contains a tabulation of effects of various chemicals upon vinyl resin-base coatings.

Copies of this folder may be obtained by writing Bakelite Company, a Division of Union Carbide & Carbon Corp., 300 Madison Avenue, New York 17, N. Y.

Technical Report On Color

A new technical report about research on ultraviolet light absorbers which protect wood under lacquer from discoloration, is available from Hercules Powder Co., Wilmington, Delaware.

As the popularity of light colored furniture has grown, considerable work towards preserving the light color of the finish has been done by producers of furniture lacquers and manufacturers of lacquer raw materials.

This report gives the results of certain work done in Hercules laboratories relative to the control of the natural darkening of furniture woods under normal usage conditions.

Of the numerous ultraviolet-light absorbers tested, the report lists two with a marked degree of effectiveness in substantially retarding the natural darkening of many woods resulting from exposure to sunlight.

Those interested may write the company for a copy.

Instrumentation Case Histories Index

More than 300 technical case histories and general information articles on industrial instrumentation, covering all major industries, are listed in a special alphabetical index published by the Industrial Division of Minneapolis-Honeywell Regulator Co., Wayne & Windrim Ave., Philadelphia 44, Pa.

The index, covering editorial content in the firm's quarterly publication, Instrumentation, from 1942 through 1952, describes instrumentation and automatic control applications in such industries as steel, petroleum, chemical, textile, nuclear energy, plastic, ceramic, etc. Metal finishing and research are also included. Copies are free.

Technical Bulletin On N-Phenylmaleamic Acid

N-Phenylmaleamic acid, an experimental chemical believed to have many interesting potentials for chemical synthesis, is now available in trial-lot quantities, American Cyanamid Co. announces. A yellow crystalline material, it has shown promise for use in the preparation of resins for synthetic fibers and plastics, and as an intermediate for the synthesis of new products.

In laboratory experiments to date, the following chemical reactions have been reported: formation of water-soluble alkali metal salts; Michael condensations; copolymerization with acrylonitrile, ethyl acrylate, vinyl acetate and other monomers; Diels-Alder reactions; dehydration to N-Phenylmaleimide.

Technical bulletin No. 30 describing the physical and chemical properties of N-Phenylmaleamic acid is available on request to American Cyanamid Co., New Development Dept., 30 Rockefeller Plaza, New York 20, N. Y.

Washing and Finishing Machine Catalog Free

A new catalog showing a complete line of washing and metal finishing machines has just been published by the Industrial Washing Machine Corp. of Matawan, N. J. The catalog, printed in two colors and well illustrated, describes overhead monorail, conveyor type, cabinet type, rotary drum and vertical type machines adaptable to washing, rinsing, phosphate coating, pickling, treating with bonderite, drying or any combination of these processes.

It is pointed out that the success of the Industrial Washing Machine Corp., in 17 years of operation, is due to the individual attention given to each problem by the company's engineers. The catalog shows how specific problems were solved by specially designed mechanical features after consultation between Industrial's engineers and those of the client company.

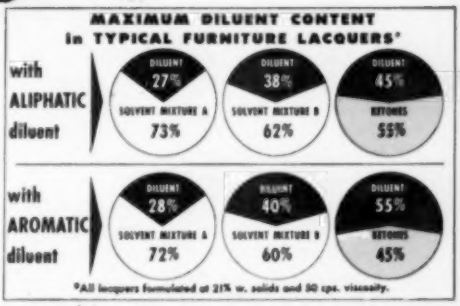
Culler Appointed Chief Chemist Mansfield Paint

Announcement of the appointment of John W. Culler as Chief Chemist of the Mansfield Paint Co., Mansfield, Ohio, is made by Floyd E. Kautz, president.

Mr. Culler received his scientific education at Ohio State and Wayne Universities. He was formerly with a large finish manufacturer in Detroit, and has had wide experience with other paint and lacquer manufacturers. He will head up the Research and Development Laboratories at Mansfield. Mr. Culler's address will be 10 Glenwood Blvd., Mansfield, Ohio.

KETONES

give you a better break with any lacquer diluent . . . and here's why!



WHETHER YOU USE an aliphatic or aromatic diluent, *you can use more diluent* when the active solvent in your lacquer formulations is a ketone.

A glance at the chart will show how ketones give you a better break. Here are six typical furniture-type lacquers with the same solids content and the same viscosity. They differ only in the active solvent employed. Three contain an aliphatic diluent. Three contain an aromatic. Take a look at the diluent content!

The ketone-aliphatic combination holds 45% diluent, and the ketone-aromatic—55% diluent. *The ketone-based lacquers show the highest diluent content with both types of diluent.*

There are other important advantages to be had with ketones, too. You can get higher solids concentration in a practical spraying viscosity range. Or you may use greater proportions of the high viscosity nitrocottons to obtain lacquers with improved toughness and durability. The advantages to be gained from using Shell ketones are summarized in two new pamphlets, *This is MIBK* and *This is MEK*. Ask your Shell Chemical representative for your copies.

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Industrial FINISHING Editorial

Back of the Finish on Goods that Sell

★ It may be observed, over a period of years, that the biggest differences between the various grades of furniture (design excluded) are in the finish color and quality, which also covers a phase of good workmanship.

A manufacturer of furniture who constantly hits the markets with merchandise that has "buyer appeal" is not guessing and certainly his finishes are not accidental. Some of the manufacturers have the facilities and the experience to develop their finishes and colors, and they nearly always do a wonderful job. The majority simply guess—and this guessing is done with one eye on the finishing room budget. "How cheaply can we do it", instead of, "How can we make it enduringly attractive". This procedure does not tend to increase sales; it only creates an unsettled condition from the buyers' viewpoint.

Frequently a very poor looking finish can be made pleasing in appearance and merchandiseable by a small increase in the finish cost. After all, what is a 20% increase in finish cost, as compared to higher quality and perhaps a 50% increase in sales?

Many large finish houses work with the designers of furniture. They design a finish to suit the type and style of merchandise. A few of the large finish concerns have experts who devote all of their time to studying styles and color trends of furniture. The advice of these men is invaluable; they seldom miss on a color or finish.

The prestige manufacturers are usually the style leaders. Their method is to choose a finish company who has its customers' interests so completely at heart that it is willing to go into market study and extensive finish and color research. Manufacturers who are using such a firm's recommended finishing system are not gambling at big odds.—*U.M.*

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

Out of Trouble and On to Production

★ How many of us ever stop to realize that many times, through pure cussedness, we actually magnify our production troubles, retard advancements toward better quality, and interfere with the development of new products? And it's all because we will not or do not analyze each operation carefully to make sure that the proper equipment and materials are being used.

Regardless of how simple or small a job is, there are right and wrong materials that can be used. I believe our greatest failing is our reluctance to take advantage of new developments. The common line of thought is, "We used this material five years ago and it worked, so there can be no reason why it shouldn't work just as well today".

DRUM TUMBLING MACHINE

Illustrated is one of several machines for rolling and/or tumbling standard steel containers of all capacities: To mix your finishing materials in suppliers' drums; to avoid fire hazard of open drums; to avoid contaminating one product with another; to avoid cleaning of equipment between mixes; to avoid delays—material is ready when needed; drums can be tapped without removing from tumbler; portable ramps permit fast insertion and removal of drums.

Hundreds of these machines are in constant use by the country's largest plants.

Send for Literature!

THE VOL-U-METER CO., P. O. BOX 54, BUFFALO 16, N. Y.

Let's stop kidding ourselves and really analyze the operations. It there is a noticeable amount of inefficiency, let's scrutinize every material or piece of equipment pertinent to the operation. Nearly always, glaring flaws will be found. Common among these overlooked things are:

1) Sandpaper (improper backing or grit for the job).

2) Spray guns of the wrong type.

3) Fluid tips, needles, or air caps for spray guns of the wrong size.

4) Air supply inadequate.

5) Rubbing compounds of the wrong grit.

6) Improper material used as rubbing lubricant.

The fact that nothing is perfect creates a constant drive toward perfection. Everything used, in the way of finishing materials and equipment, is manufactured by someone. This "someone" has competition, and competition induces refinements, all of which call for constant research and product development. It is foolish to suggest trying every new thing that hits the market, but it is practical to call in technicians from the regular sources of supply to help bring your operations up to date.—*J.X.*

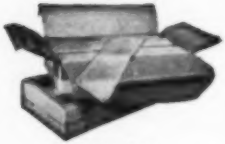
H. W. Parmele, Naz-Dar President, Dead at 54

Services for Howard W. Parmele, aged 54, president of Naz-Dar Co., Chicago, manufacturer of silk screen process colors and supplies, were held at 1 p.m. Tuesday, June 16. Mr. Parmele died Saturday in St. Francis Hospital, Evanston, Ill. Surviving are his widow Fannie, a son Howard Jr., and a married sister. Interment was in Rosehill.

Mr. Parmele was a son of the late Wm. M. Parmele, veteran paint maker, member of the 50-Year Club, who began his career with Stearns Paint Co. in Davenport, Ia., in 1888 and who had been superintendent of Red Spot Paint Co., Evansville, Ind., from 1919 until his retirement in 1945. He died June 2, 1951, in Evansville.

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.



IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY
A SPECK-FREE FINISH EVERYTIME

Now Available in Rolls or Cut Bulk—White or Gold. In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!

The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is **Spontaneous Combustion Proof, Lint-Free** and **Wax-Free.** Gives a sparkling speck-free Finish **every time.** Clean and sanitary. **No waste.**

TRY THEM and COMPARE RESULTS.
Samples Gladly Sent Upon Request.

BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2641 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

Also Individually Packed In Glassine Envelopes—144 to the Carton

A Warranty of Satisfaction in Every Carton

Send Samples Promptly To Get Orders

★ It is surprising how the length of time between the ordering of a sample of an industrial material and its delivery will vary. I am referring to samples of standard materials such as oils, solvents, resins, metal cleaners, paint removers, wetting agents, etc., which the manufacturer presumably has on hand at all times, and not to materials that have to be specially made. Of course the time elapsed before delivery will depend largely on the distance the sample has to travel.

A customer in Chicago, for instance, may get a sample from a local source in a day or two. A similar sample from the East Coast may take a week to reach him. The customer knows this and understands that it may not be feasible for the manufacturer to stock samples in the Chicago area. When the sample from the East Coast takes three weeks to reach him, however, the customer feels that the manufacturer is falling down on the job.

Although the majority of suppliers are quite conscientious about getting samples to customers quickly, there are companies, some of them well-known, that are lax in this respect. This is surprising in this day when the idea of selling service is so widespread.

One might ask if a few days delay in delivery of samples really makes any difference. If the customer is not in any hurry or wants one specific item, it might not. Often this is not the case, however. A man might order samples of three resins to see which is best, not being sure that any of them will do the job. As soon as the first one comes in, he tries it for the use he has in mind.

By the time the third resin arrives

he may have finished testing the first one and found it satisfactory. If the price is competitive, he will likely order it. He already has what he wants and might not even bother to test the last sample to arrive. In the future he will tend to shy away from ordering samples from the company that gave him poor delivery and will favor the companies with good records in this respect.

I don't know why some companies have slow deliveries. Perhaps their shipping department is overburdened; perhaps the order for samples gets lost in a maze of red tape going from one department to another. Whatever the reason, it is obvious that they are losing business by their laxity.—*E. V. Goldstein.*

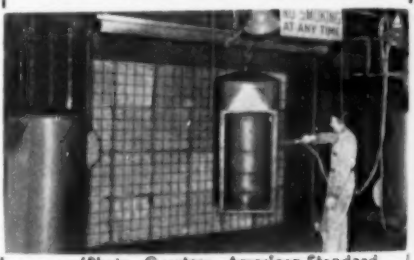
New Vice Presidents of Stewart-Warner

Directors of Stewart-Warner Corp., at the first board meeting subsequent to the annual meeting of stockholders held May 13, at Richmond, Va., re-elected all incumbent corporation officers and, in addition, created and filled six new vice presidencies, James S. Knowlson, board chairman and president announced.

L. G. Vanderhoof and D. C. Peterson

Named vice presidents in the divisional management group were David C. Peterson, director of engineering and manufacturing of Division One, Chicago, the company's largest division and producer of the Alemite line of lubrication products, and Lynn G. Vanderhoof, general manager of the Stewart Die Casting division, Chicago. This latter division also has a plant in Bridgeport, Conn.

HERE'S THE ECONOMICAL WAY TO PAINT SPRAY BOOTH EFFICIENCY



(Photo Courtesy American-Standard Elyria, Ohio Plant)

This converted paint spray booth, with RP Paint Arrestors, brought real savings in installation and maintenance costs . . . and practically eliminated "down-time". Write for free booklet with helpful overspray removal suggestions—the RP way.

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Lacquers • Enamels • Dopes • Thinners
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BOOKS On Finishing Available

"MODERN ORGANIC FINISHES—Their Application to Industrial Products" (452 pages) new $8.50

"CHEMICAL FORMULARY" (Vol. IX) 7.50
(Preceding Volumes also available, same price)

"FINISHING METAL PRODUCTS"—2nd edition (352 pages) 6.00

"PRACTICAL FURNITURE FINISHING" (112 pages) 1.75

"FURNITURE FINISHING" (543 pages) 5.00

"SPRAY PAINTING"—Industrial and Commercial (169 pages) 2.50

"THE MIXING OF COLORS AND PAINTS" (292 pages) 3.00

"WOOD FINISHING" (361 pages) 3.00

"NATIONAL PAINT DICTIONARY" (704 pages) 10.00

"MODERN POLISHES AND SPECIALTIES" (313 pages) 7.50

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"THE SCIENCE OF WRINKLE FINISHING" (204 pages) 5.00

"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages) 6.00

"PAINT & VARNISH TECHNOLOGY" (509 pages) 8.00

"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages) 1.75

"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages) 12.00

"INDUSTRIAL SOLVENTS" (764 pages) 12.00

"FINISHING MATERIALS AND METHODS" (320 pages) 4.00

Cash Must Accompany Order—Send for Descriptive Circular

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Hutchinson Promoted by Glidden Company

The appointment of Mr. Carroll O. Hutchinson as assistant sales manager of the Glidden Company's Nubian Industrial Region in Chicago, has been announced by A. D. Duncan, Glidden vice president and paint and varnish division general manager.

Mr. Hutchinson will serve in his new capacity until October 31, when he will take on the duties of sales manager, the position now held by Nat Armel. Mr. Armel, who reached retirement age in January, will remain in active service until October 31.

A chemical engineering graduate of the University of Cincinnati, Mr. Hutchinson joined the Glidden Company in 1945 as technical service director of the Nubian Region.

Earlier, he was assistant chief chemist of a large pigment concern and served as captain in the Office of the Chief of Ordnance, where he helped develop protective coatings for ammunition during the war.

DeVilbiss Expands Metal Working Division

Expansion of the metal working division of the DeVilbiss Company, Toledo, Ohio, manufacturers of complete spray finishing equipment, is announced by Howard P. DeVilbiss, company president.

To handle the company's expanding business in the spray booth field, an addition is being built on to the present building occupied by the sheet metal division. Mr. DeVilbiss said the new steel-frame and masonry structure will give the company additional space for manufacturing, storage and shipping.

While a portion of the company's spray booths are engineered for individual requirements, the DeVilbiss line of standard size booths are carried as stock items. With the expansion, Mr. DeVilbiss said, better delivery of standard booths can be made. The construction work is expected to be completed in September.

The company's manufacturing facilities occupy a 50-acre site in Toledo and, in addition to the separate building housing the metal working division, DeVilbiss has seven other modern plant structures for the manufacture of rubber hose, spray guns, air compressors, air regulators and transformers, and other allied equipment. Branch plants are located in Santa Clara, Calif.; Somerset, Pa., and Windsor, Ontario, while an affiliate, the Aerograph Co., Ltd., operates in London, England.

GOOD FINISHES —GET GOOD RESULTS

- Fillers and stains
- Lacquers—Clear and Semi-Gloss
- Sealers
- Lacquer Enamels—Flat and Gloss
- Synthetic Enamels

. . . . and New Period are fine finishes. If you're after better looking . . . longer lasting . . . easier to apply finishes—if you're after good results—specify New Period.

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MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES

NEW PERIOD *Production Finishes*

ESTABLISHED 1917

NEW YORK WOODFINISHERS' Supply Co. INC.

108 JAY STREET BROOKLYN, N.

Oakite Changes in Management Organization

Following a recent meeting of the board of directors of Oakite Products, Inc., manufacturers of industrial cleaning and allied materials, five changes in the management organization of the company were announced. H. Liggett Gray, former vice president, was elected to the office of second vice president, in which position he will have broad responsibilities in matters pertaining to over-all management functions, in addition to general supervisory duties in connection with manufacturing operations. At the same meeting, Frank L. Oldroyd was named vice president, a post he will hold in addition to his present position as general sales manager of the company's industrial division.

Also elected vice presidents were Eustace Lingle and Van Dorn C. Smith. The former will continue to cooperate with the general sales manager in the direction and guidance of the firm's sales organization, and will be responsible for the functioning of its engineering, technical service and sales development departments, while the latter's duties will involve consultation work of a general technical and sales nature.

Another change announced was the election of George M. Seib, assistant manager, to the office of secretary of the company. In addition to his new duties, he will continue to supervise personnel department operations and be responsible for general office administration policies and procedures. The new appointments, a company spokesman states, are designed to add to the managing and operating strength of the company, and assist it in meeting with maximum effectiveness the increased demands made upon its production and technical service facilities by the steadily growing number of manufacturing and processing plants it serves in all branches of industry.

SPRA-KLEEN
The More Effective
SPRAY-BOOTH WATER-TREATMENT

- Foam Free Operation
- Easier Sludge Reclamation
- Lower Operating Cost

WRITE FOR *FREE* TRIAL SAMPLE

HARCO CHEMICAL CO.
CRANFORD • NEW JERSEY

RONA
TRADE MARK
Synthetic
PEARL ESSENCE
now at lowest price in ten years

for INDUSTRIAL FINISHES BAKE OR AIR DRY For:

- Refrigerators
- Kitchen Cabinets
- Appliances
- Housewares
- Automobiles
- Lamps
- Office Equipment & Supplies
- Toys
- Jewelry
- Caskets
- Fishing lures
- Your Products made of metal, plastic, wood or glass

Laboratory tests show that RONA synthetic PEARL ESSENCE
- Increases film strength, flexibility and adhesion
- Decreases water and oil absorption
- Enhances appearance, eye-appeal and sales appeal of your product.

Write for sample. Specify application and choice of vehicle.

NATURAL PEARL ESSENCE PRICES ON REQUEST.

RONA LABORATORIES, INC., 358 Doremus Ave., Newark, N. J.

Serving THE SOUTHEAST

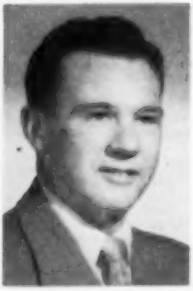
- LACQUERS
- SEALERS
- FILLERS
- TONERS
- GLAZES
- PIGMENTED WIPING STAINS
- NGR STAINS

Complete Technical Service At Your Disposal

SNYDER BROTHERS COMPANY
Manufacturers of Quality INDUSTRIAL LACQUERS
P. O. BOX 548 — TOCCOA, GEORGIA

Smiley New Maas & Waldstein Technical Service Representative

The addition of Kenneth A. Smiley as technical service representative to cover the Western New York area, is announced by G. Klinkenstein, president of Maas & Waldstein Co., manufacturers of lacquers, enamels and syntehtic finishes, Newark N.J.



Mr. Smiley will cover a large section of the Western New York State territory. He is experienced in the field of specialized production finishes and has completed a training course in the company's Research and Development Laboratories and Pilot Plant.

It is expected that Mr. Smiley's experience and knowledge of handling all types of lacquer coatings will undoubtedly be of value to manufacturers in the Western New York area in simplifying their finishing problems.

DeVilbiss Fall Schedule for School of Spray Painting

The schedule for the latter half of 1953 is being announced by the DeVilbiss Company, for courses of instruction in industrial spray finishing methods in its School of Spray Painting, now in its twenty-seventh year of tuition-free operation for users of DeVilbiss equipment. Applications should be made as early as possible for enrolling foremen, shop superintendents, maintenance supervisors, spray operators and any others who wish to attend the week-long classes as follows: July 13, August 17, September 14, October 12, November 9, and December 7. These classes will be held in the modern school headquarters now in operation adjoining the main plant at Toledo.

Applications for all classes on the new schedule should be sent now to the DeVilbiss Company, Toledo 1, Ohio. Those interested may request School Form INS-753-A. There is no charge for attending, the only expenses being transportation, board and room.

Glidden's Nubian Division Expanded Again

Details of a $750,000 expansion program to increase manufacturing and warehousing space at the Glidden Co's. Nubian Industrial Division in Chicago were announced recently by A. D. Duncan, Glidden vice president and paint division general manager.

Facilities to be added (a new 3-story brick building) mark the fourth major increase to Nubian plants and laboratories since 1946. Previous postwar expansion has exceeded $1,000,000, Mr. Duncan said.

"Need for additional space was brought about by an increase in the Nubian Division's volume of business through new and better finishes in the field of industrial coatings," Mr. Duncan explained.

The roof will be constructed so that it may be used for storage, with a penthouse protecting ramp openings to lower floors from the weather.

Martin Appointed Kelite National Sales Director

The appointment of Richard C. Martin as national sales director of Kelite Products, Inc., manufacturers of industrial cleaning and processing chemicals, is announced by L. C. Sorensen, President. Mr. Marton will supervise the firm's service offices in 84 cities.

Mr. Martin started with Kelite in 1944, and in 1950 was placed in charge of the Southern Division with headquarters in Dallas. A native Texan himself, Mr. Martin expanded business so rapidly throughout Missouri, Kansas, Oklahoma, Louisiana and Texas, that he is now put in charge of the entire sales operation. Mr. Martin will make his headquarters at the Kelite main plant, 1250 N. Main St., Los Angeles, Calif.

New Enthone Addition

The completion of increased manufacturing and warehousing facilities at their plant, is announced by Enthone, Inc., New Haven, Conn., manufacturers and suppliers of chemicals for the metal finishing industry. The recent two-story addition to their group of buildings is shown in accompanying photograph. The added area amounts to 6,600-sq.-ft.

At the present time, the ground floor of this new building is being used for warehousing of Enthone products and distributed chemicals, and for the enlarged Shipping and Receiving Department. The entire second floor is to be used for the new research and development and the customer service laboratories of Enthone, Inc. which will be ready for occupancy in 1954.

THINNERS

LOW COST!

- ASK FOR QUOTATIONS!
- FORMULATED TO MEET ANY SPECIFICATION.
- QUALITY AND UNIFORMITY GUARANTEED.

Shipped in Tank Cars, Tank Wagons, Drums or 5 Gal. Cans.

Specialists in Thinners for the Leather Trade.

Low Cost Volume Blending and Drumming Service on Contract.

Write or Phone for Prompt service and deliveries.

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automatic-pneumatic.
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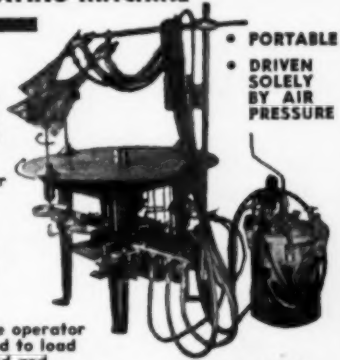

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- DRIVEN SOLELY BY AIR PRESSURE

Production up to 1000 pieces per hour

Uses regular exhaust booth

Only one operator is needed to load unfinished and remove finished work.

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MANUFACTURERS - DEALERS
276 SOUTH NINTH ST. - BROOKLYN N.Y.

Ell-Bee Chemical Manufactures Base Solutions

Mr. Tyler of the Ell-Bee Chemical Co. of Hanover, N. J., manufacturers of specification thinners, announces a new division of operation. This new division will go into production of nitro-cellulose base solutions during the first week in August. The Nitro Solutions Division will be operated from the Hanover, N. J., plant.

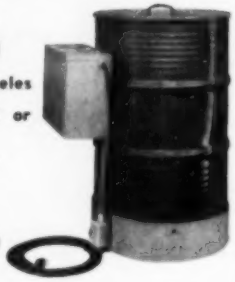
R. E. Doran, President of Naz-Dar

Robert Emmet Doran has been appointed president of the Naz-Dar Co. (screen process supplies), Chicago, Ill. Mr. Doran joined the company in 1924, in a sales capacity, and has been Vice President in charge of sales. At the same time, John C. Pottage was appointed Vice President of the Naz-Dar Co.

Low Priced
BARREL DEGREASER

PRICE
$187.50
f.o.b. Los Angeles

- 2-kw., 110 or 220 volts
- Thermostat
- No water required
- Recovers used solvent



READY FOR OPERATION
Just plug in cord

BARON industries
241 W. Ave. 26, Los Angeles 31, Cal.

Random Comment on the Industrial Scene

(Continued from page 8)

Printing on foil with high speed rotogravure presses, handling as many as six colors at a time, has grown to tremendous proportions. Both transparent and opaque inks are used. Even solid colors printed on aluminum foil gleam with a metallic brilliance; and the natural luster of the metal itself can be utilized in the design, so that silver and gold are added to the artist's palette. Many of the nation's most famous packages have been given new life and new sales appeal by redesigning to take full advantage of the magic of aluminum foil.—*Reynolds Metals Co.*

* * *

Summer Furniture Markets. Both Chicago and Grand Rapids furniture markets were typical mid-season markets. Attendance was fair, and prices remained about the same as last January. Buyers were conservative—in some cases, too much so. Retailers inventories cannot be too large, and certainly furniture manufacturers do not have a backlog of anything except orders. A Fall buying rush is likely to cause a lot of headaches and disappointed customers.

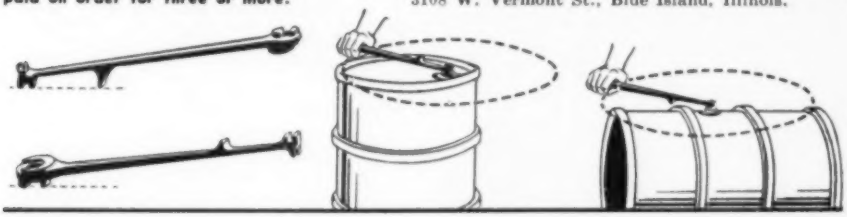
Many new suites were shown. Furniture seems to be getting fancier. Upholstered furniture is getting fatter, especially the "California Modern" with deep tufting. The trend in fabrics is to the smooth. Chests and cabinets lean more to elegance with leather covered pulls, marble, travertine and shiny brass much in prominence. Some new tables have walnut legs, brass tipped with blond birch or maple tops.

At a conference in the Merchandise Mart, Don L. Jordon, president of Johnson-Carper Furniture Co., sound-

5-in-1 Steel Drum Wrench

Price $6.00 F.O.B. Chicago. Postage paid on order for three or more.

It fits all sizes and designs of caps or plugs which close the openings in steel drums. Positive grip without slipping. Guaranteed not to break. William C. Richards Co., P. O. Box 155, 3108 W. Vermont St., Blue Island, Illinois.



ed the keynote of progress when he declared that "over the last 15 years more technological advancement has been made in the furniture industry than was made in the previous 100 years". A few of these improvements include waterproof glues, synthetic finishing materials that enhance durability, new application methods, and molded plastic drawers.

* * *

Paint. It is of more than passing interest that Trans World Airlines says the white paint used on their Constellation planes, a synthetic enamel in which soybean oil is used, reduces temperature inside the cabin about 15° when the plane is on the ground. Temperature inside the cabin is not affected when the plane is in flight. The outside temperature drops about 2° for each 1000-ft. of altitude.

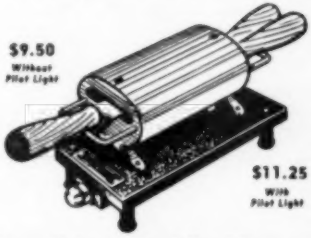
* * *

Furniture Sales for last year reached 1 billion, 675 million dollars at factory prices according to Seidman & Seidman, accountants for a great many furniture factories. This was only ½ of 1% below the 1 billion, 687 million dollar record of 1950.

It is hoped that 1953 will exceed past records. Sales in the first half look very promising.

No String Tied To This—

If You Use OP-AL



Patching Knife Heater

STANDARD FOR OVER 25 YEARS

Sold By All Leading Jobbers

OP-AL THE OP-AL ELECTRIC AND MANUFACTURING COMPANY

809 N. SENATE AVE. - INDIANAPOLIS 7, IND.

Phone: Lincoln 0250

Rust-Oleum Corp. Appoints Two Distributors

The Rust-Oleum Corp., 2799 Oakton St., Evanston, Ill., manufacturer of rust preventives, announces the addition of two new distributors.

The newly appointed firms are, Griswold-Sohl Automotive Co., 232 N. Fourth St., Columbus 15, Ohio, and Mill Supplies, Inc., Box 2762, Highway 82, East Greenville, Miss.

Bullock Joins U. S. Stoneware

The U. S. Stoneware Co., Akron, Ohio, announces appointment of Kenneth L. Bulloch as assistant salesmanager of the Process and Equipment Division, with headquarters in the Akron office.

Mr. Bullock holds a BS degree in organic chemistry from the University of Delaware, and is a member of the American Chemical Society.

He has wide experience in chemical processing, specializing in organic chemicals and research, and development of phenols and furane resins for application in chemical resistant plant equipment.

DuPont Changes In Personnel

The DuPont Company's Finishes Division has appointed Geo. H. Berlin, Jr., currently refinish sales manager in the Cleveland regional office, to manager of industrial sales, San Francisco. He replaces H. A. Henry who resigned.

Mr. Berlin, a graduate of the University of Pennsylvania with a degree in chemistry, has been with DuPont since 1936. He has had plant, laboratory and sales experience.

Hanson H. Hodge, assistant refinish sales manager, Wilmington, will fill the vacancy in the Cleveland office.

Additional changes in assignments follow:

Edward W. Lloyd from industrial sales supervisor to industrial sales manager in the Dallas regional office.

G. Kenneth Stout, industrial sales manager, Boston, to assistant regional manager in an advisory capacity until his voluntary retirement Dec. 31, 1953.

Malcolm G. Peterson, industrial sales supervisor, Boston, is promoted to regional sales manager, Boston.

John T. Geohegan, now industrial sales representative, Atlanta, becomes supervisor in the Philadelphia office.

FOR SALE—Sacrifice.

16-ft. Devilbiss Water Wash Spray Booth.

Gas-Fired Drying Oven—Paul Maehler, 8'-6" x 8'-0", Automatic Controls.

Detrex Well Type Degreaser.

Presently in operation; priced to move quickly for needed space. Write or call for detailed information.

HAMILTON STEEL PRODUCTS, INC., 1845 W. 74th Street, Chicago 36, Illinois. Walbrook 5-8800.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

EMPLOYED FURNITURE SUPT. DESIRES ANOTHER POSITION.

30 years' experience handling entire plant, from yard to shipping, making bedroom, dining room, tables, chairs and novelties. Know all operations in manufacture of quality furniture at lowest costs. Handle all kinds of labor and machines. Address IF-129, care Industrial Finishing.

INDUSTRIAL FINISHES SALESMAN

For Michigan territory outside of Detroit. Must be experienced, aggressive and have good contacts in this territory. We have a very unusual opportunity to offer such a man. Our Salesmen know of this ad. All replies treated in strict confidence. Address IF-130, care Industrial Finishing.

SALESMAN WANTED.

Established eastern manufacturer of raw materials for decorative finishes wants experienced salesman to cover middle-west territory out of Chicago. Experience in plastics and organic coatings fields desirable. Salary and expense against commission on all business from specified territory. In reply, state age and experience. Give references and salary requirement. Address IF-133, care Industrial Finishing.

SALESMAN WANTED.

Old established manufacturer of metal and wood finishing materials desires the services of an experienced industrial finishing salesman. Imperative that anyone answering this add must have some established accounts. Additional territory wil be assigned. Address IF-135, care Industrial Finishing.

FINISHING EQUIPMENT FOR SALE

Paasche Automatic Airpainting and Drying Unit Complete with Water Wash Booth.
R. C. Mahon Spray Booths with Blower, Pump, Filter, Turntable, Etc.
Barrett Centrifugal Enameler for Filwhirl or Dipspin Methods.
Binks and DeVilbiss Pressure and Mixing Tanks. Sizes 5 to 125 Gallons.
C. M. Hall Infra Red Oven, Degreasers, Blowers, Motors, Switches, Etc.

Write for Particulars, or Inspect at

GENERAL TRADERS, INC. 2675 W. GRAND AVENUE, CHICAGO 12, ILLINOIS

CHEMIST WANTED.

We need a chemist experienced in industrial finishes. Many benefits. Salary open. All replies held confidential. ROCKFORD VARNISH CO., Rockford, Illinois.

EQUIPMENT SALESMEN WANTED.

Chicago manufacturer of complete Metal Finishing systems, ovens, heaters, air make-up units, spray booths and washers, wants qualified salesmen for states of Michigan, Ohio and Pennsylvania. Salary, commission and expenses. State sales and equipment experience, education, territory traveled, salary, etc. Address IF-122, care Industrial Finishing, Indianapolis 4, Ind.

ALKALI SALES SUPERVISOR.

District sales supervisor needed at once to represent nationally-known metal cleaning company. Territory Northwestern part of the United States. The person we are seeking must have had plating, alkali cleaning, or phosphate coating experience. Excellent starting salary and incentive plan. Interviews will be granted in the near future. Please send resume of experience to IF-132, care Industrial Finishing.

SALESMEN—INDUSTRIAL FINISHES

Minnesota
Wisconsin
Iowa

Must be experienced, young and aggressive. FROST PAINT & OIL CORP., Minneapolis 13, Minn.

DRUM CLEANING CHAIN

THE VOL-U-METER COMPANY
Buffalo 16, N. Y.

FOR SALE.

Paint and Lacquer manufacturing business with buildings and varnish stack for five kettles, located in Chicago, Ill. Address IF-134, care Industrial Finishing.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

SOLVENT CLEANING SERVICE.

Dirty lacquer solvent can be shipped to us for distillation and returned to you clean and ready for use. Within 200 mile radius of Louisville a substantial economy can be realized. Cost runs from 14c to 19c per gallon. KENTUCKY COLOR & CHEMICAL CO., 600 N. 34th St., Louisville 12, Ky.

FORD CUPS

THE VOL-U-METER COMPANY
Buffalo 16, N. Y.

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE
EST. 1931
4201 N. W. 7th St. Miami 34, Fla.

ETCHED METAL PLATES
STEEL STAMPS - BRASS STENCILS
RUBBER STAMPS
AND ALL OTHER MARKING PRODUCTS
ST. PAUL STAMP WORKS INC.
Oldest in the Northwest Established 1870
67 E. FIFTH ST. ST. PAUL 1, MINN.

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STURLON® an entirely new Metal Finish . boosts sales of Sturgis Posture Chairs . . .

The Sturgis Posture Chair Company of Sturgis, Michigan, is setting new sales records with its metal office chairs, thanks to STURLON, an entirely new type of metal finish, manufactured exclusively by Advance.

Independent laboratory tests show STURLON has a resistance to abrasion many times greater than that of other finishes. Due to its extra film thickness, STURLON makes metal more static-resistant, warm and pleasant to the touch; gives light metal a heavy metal sound. STURLON is non-corrosive—it is unaffected by moisture, salt air, humidity or temperature changes. It's non-fading. Laboratory tests show no apparent color change in STURLON, even after 370 hours in the Fadeometer.

STURLON is available in most colors. For details, write, wire or phone Advance today.

Advance PAINT COMPANY

Indianapolis Indiana

MANUFACTURERS OF INDUSTRIAL FINISHES

for batch or continuous production

KIRK AND BLUM *industrial ovens*

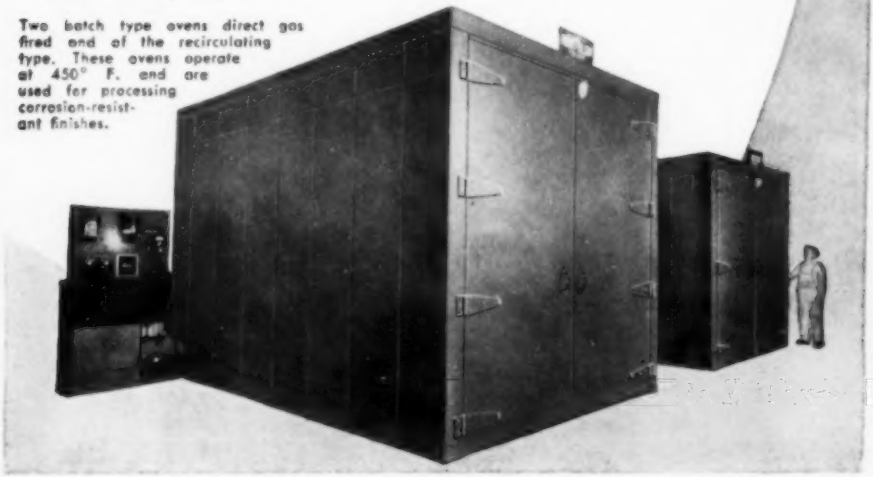
• **Save Space** • **Speed Production** • **Improve Quality**

Compactly designed and expertly engineered to meet specific production requirements, these recent installations illustrate KIRK & BLUM Ovens built for many uses.

From mammoth conveyor ovens for high production to the smallest laboratory units, KIRK & BLUM Industrial Ovens are equipped with complete temperature and safety controls to assure performance . . . to insure quality results.

Many ovens are shipped complete from the new KIRK & BLUM plant, ready to use as soon as necessary connections are made.

Write for booklet, "Industrial Ovens," showing other typical installations. The Kirk & Blum Mfg. Co., 3131 Forrer Street, Cincinnati 9, Ohio.



Two batch type ovens direct gas fired and of the recirculating type. These ovens operate at 450° F. and are used for processing corrosion-resistant finishes.